

Service Service Service

FUZ2.0U LA

32MF338B/27

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040308

Service Manual

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PHILIPS

1. SPECIFICATIONS

1.1 Specifications

< TUNER / NTSC >

ANT. Input-----75 Ω Unbal., F type

Description	Condition	Unit	Nominal	Limit
1. AFT Pull-in Range	---	MHz	±2.3	±2.1
2. Synchronizing Sens.	TV.ch.4	dBμ	---	20
	CA.ch.31	dBμ	---	20
	CA.ch.87	dBμ	---	23

< TUNER / ATSC >

Description	Condition	Unit	Nominal	Limit
1. Received Freq. Range (-28dBm)	---	kHz	---	±100
2. ATSC Dynamic Range (min / max)	ch.4	dBm	---	-76/0
	ch.10	dBm	---	-76/0
	ch.41	dBm	---	-74/+4

< LCD PANEL >

Description	Condition	Unit	Nominal	Limit
1. Native Pixel Resolution	Horizontal	pixels	1366	---
	Vertical	pixels	768	---
2. Brightness	---	cd/m ²	320	---
3. Viewing Angle	Horizontal	°	-88 to +88	---
	Vertical	°	-88 to +88	---

< VIDEO >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal	%	5	5±5
	Vertical	%	5	5±5
2. Color Temperature	---	°K	12000	---
	x	---	0.272	±3%
	y	---	0.278	±3%
3. Resolution (composite video)	Horizontal	line	400	---
	Vertical	line	350	---

< AUDIO >

All items are measured across 8 Ω load at speaker output terminal with L.P.F.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Max Power (ATSC 0dBfs)	Lch/Rch	W	10.0/10.0	9.0/9.0
2. Audio Distortion (NTSC)	500mW: Lch/Rch	%	0.5/0.5	2.0/2.0
3. Audio Freq. Response (NTSC)	-6dB: Lch	Hz	70 to 10 k	---
	-6dB: Rch	Hz	70 to 10 k	---

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

< PICTURE / DISPLAY >

Description	Specification
1. Aspect ratio 2. Picture Enhancement	Widescreen Progressive Scan, 3D comb filter, Smart Picture (4 models): Nature, Rich, Movie, Soft

< SOUND >

Description	Specification
1. Output Power (RMS) 2. Sound Enhancement 3. Sound Mode	2 x 10W Mono, Stereo Treble, Bass

< CONVENIENCE >

Description	Specification
	Auto Program, Closed Captioning Full Text, Sleep timer

< ON SCREEN DISPLAY LANGUAGE >

Description	Specification
	English, French, Spanish

< CONNECTIVITY >

Description	Specification
1. Rear	75Ω / RF COMPONENT 1- Component Video (YPbPr), Audio L/R input COMPONENT 2- Component Video (YPbPr), Audio L/R input VIDEO 1- Composite Video (Video In), S-Video, Audio L/R input Coaxial digital audio output (Digital Only) PC-VGA, Audio HDMI 1, HDMI 2
2. Side	Video 2- Composite Video (Video In), S-Video, Audio L/R input

< WEIGHT & DIMENSIONS >

Description	Specification
1. Weight (incl. Packaging): 2. Weight (excl. Packaging): 3. Carton Dimension (W x H x D): 4. Product Dimension (W x H x D):	13.9 kg / 30.7 lbs 11 kg / 24.3 lbs 904 x 665 x 228 mm 35.6" x 26.2" x 9.0" 776 x 562 x 272 mm 30.6" x 22.2" x 10.7"

< POWER >

Description	Specification
1. Power Consumption: 2. Standby Power Consumption: 3. Mains Power:	155W (Maximum) < 1W 120V, 60Hz

1.2 Technical Specifications

1.2.1 Technical Specifications

Panel	: CMO
Active Area	: 697.685mm(H) x 392.256mm(V)
Outline Dimension	: 776.0mm(H) x 562.0mm(V) x 272.0mm(D)
Pixel Pitch	: 0.17025mm(H) x 0.51075mm(V)
Pixel Format	: 1366 x 768 (WXGA)
Color Depth	: 8-bit, 16.7M colors
Luminance	: 430 cd/m ²
Backlight	: CCFL
Response Time	: 8 msec.
Viewing Angle	: 176/176 (L/R,U/D)
Contrast Ratio	: 1500:1
Tuning system	: PLL
CCFL MTBF	: 40,000 hrs (min.)
Formats for PC (D-SUB 15pin)	: 800 x 600p 60Hz 1024 x 768p 60Hz 1280 x 768p 60Hz 1360 x 768p 60Hz
Formats for HDMI	: 640 x 480p 60Hz 720 x 480i 30Hz (29.97Hz) 720 x 480p 60Hz (59.94Hz) 1920 x 1080i 30Hz (29.97Hz) 1280 x 720p 60Hz (59.94Hz)
Formats for Component	: 720 x 480i 30Hz (29.97Hz) 720 x 480p 60Hz (59.94Hz) 1920 x 1080i 30Hz (29.97Hz) 1280 x 720p 60Hz (59.94Hz)
Formats for S-in, NTSC & Video	: 720 x 480i 60Hz (59.94Hz)
Formats for ATSC	: 640 x 480i 30Hz (29.97Hz) 640 x 480p 24Hz (23.976Hz) 640 x 480p 30Hz (29.97Hz) 640 x 480p 60Hz (59.94Hz) 704 x 480i 30Hz (29.97Hz) 704 x 480p 24Hz (23.976Hz) 704 x 480p 30Hz (29.97Hz) 704 x 480p 60Hz (59.94Hz) 1280 x 720p 24Hz (23.976Hz) 1280 x 720p 30Hz (29.97Hz) 1280 x 720p 60Hz (59.94Hz) 1920 x 1080i 30Hz (29.97Hz) 1920 x 1080p 24Hz (23.976Hz) 1920 x 1080p 30Hz (29.97Hz)

1.2.2 Sound

Sound systems	: Mono / Stereo / Sap
Maximum power	: 2 x 10W

1.2.3 Miscellaneous

Power supply

AC-input	: 120V AC, 60Hz
Normal Operation	
Power Consumption	: < 155W
Standby power	: < 1W
Power cord length	: 1545 mm (min.)
Power cord type	: NISPT-2
Power indicator	: LED (On: Green, Standby: Red)

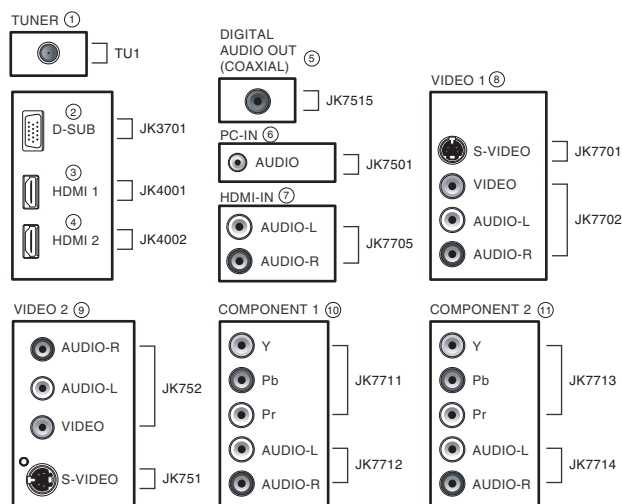
Ambient conditions

Temperature	: 0 to 50 °C
Humidity	: 80%RH
Power consumption	
Normal Operation	: < 155W
Standby power	: < 1W

1.3 Connections

1.3.1 Signal Connector

- (1)Tuner : NTSC / ATSC.
- (2)D-SUB : VGA input (D-SUB 15 pins).
- (3)HDMI 1 : HDMI 1 input with HDMI-IN audio R/L.
- (4)HDMI 2 : HDMI 2 input.
- (5)DIGITAL AUDIO OUT :RCA jack.
- (6)PC-IN Audio : Mini-jack.
- (7)HDMI-IN Audio : Audio R/L (RCA jack) for HDMI(DVI).
- (8)VIDEO 1 : Video 1 (CVBS, RCA jack) and S-Video 1 share with same audio R/L (RCA jack).
- (9)VIDEO 2 : Video 2 (CVBS, RCA jack) and S-Video 2 share with same audio R/L (RCA jack).
- (10)COMPONENT 1 : Y/Pb/Pr component video1 (RCA jack) with audio R/L (RCA jack).
- (11)COMPONENT 2 : Y/Pb/Pr component video2 (RCA jack) with audio R/L (RCA jack).



1.3.2 Input Signal

TV Signal type

- RF Signal : Aerial input / 10mV(80dBuV)
 Video signal : Video (RCA CVBS input) / 1Vpp
 (300mV-sync, 700mV-video.)
 S video input / 1VppY-signal,
 300mVpp C-signal
 COMPONENT Video (Y/Pb/Pr
 input) / 1Vpp Y signal, 350mVpp Pb,
 Pr signal
 HDMI : Digital interface with 4 channels
 TMDS signal

Audio signal :

Audio R/L for COMPONET 1.

- Level :- Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

Audio R/L for COMPONET 2.

- Level :- Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

Audio R/L for VIDEO 1.

- Level :- Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

Audio R/L for VIDEO 2.

- Level :- Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

Audio R/L for HDMI-IN.

- Level :- Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

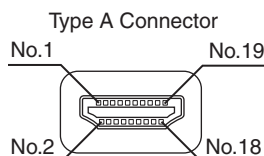
PC Signal type

Analog Video : 0.7 Vp-p linear, positive polarity
 Separate Sync.: TTL level, separate, positive or
 negative polarity

Audio signal : Mini-jack audio input,
 Level: - Nominal : 0.5 V rms.
 - Maximum : 1.5 V rms.
 - Impedance > 10 k Ω .

Digital Audio output : 0.5 V ~ 1 V Square Wave.

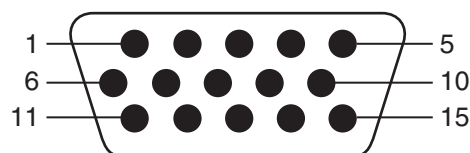
1.3.3 HDMI Pin assignment



PIN No.	SIGNAL
1	TMDS Data2+
2	TMDS Data2 shield
3	TMDS Data2-
4	TMDS Data1+
5	TMDS Data1 shield
6	TMDS Data1-
7	TMDS Data0+

PIN No.	SIGNAL
8	TMDS Data0 shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock shield
12	TMDS Clock-
13	CEC
14	Reserved (N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

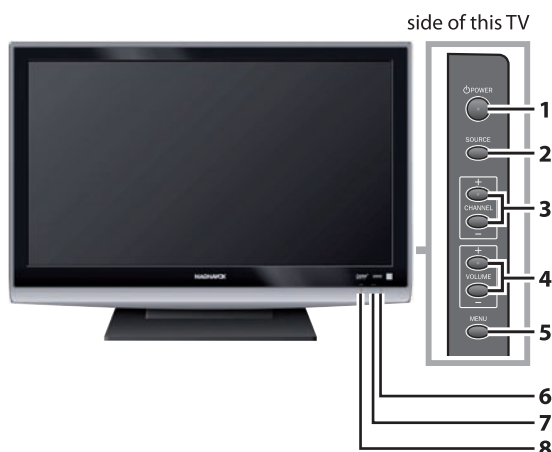
1.3.4 VGA Pin assignmentinput



PIN No.	SIGNAL
1	Red
2	Green
3	Blue
4	GND
5	Self test
6	Red GND
7	Green GND
8	Blue GND
9	+5V (Supply from PC)
10	Sync GND
11	GND
12	Bi-directional data (SDA)
13	H-sync
14	V-sync
15	Data clock (SCL)

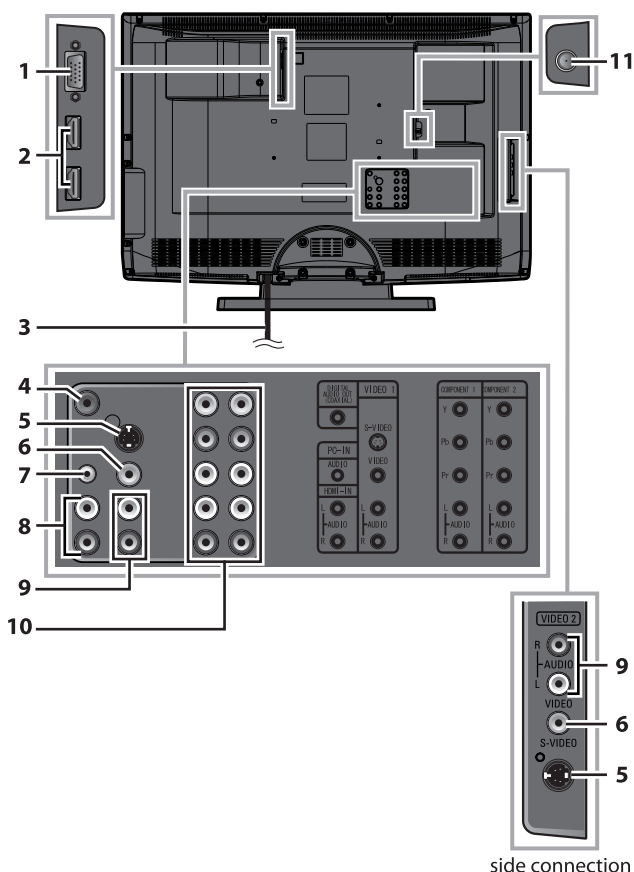
2. OPERATING CONTROLS AND FUNCTIONS

Control Panel



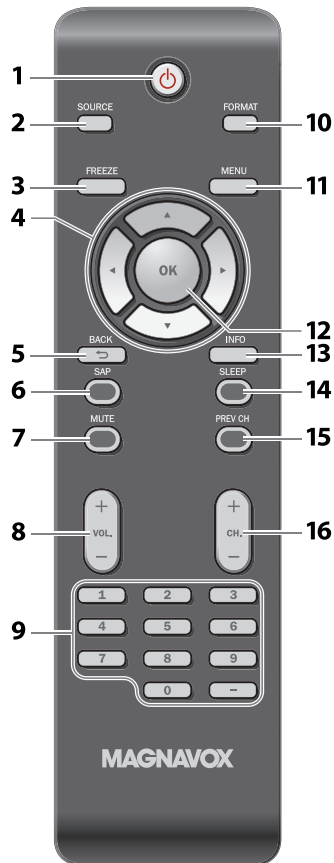
1. **POWER**
Press to turn the TV on and off.
2. **SOURCE**
 - Press to access connected external devices like a DVD player or VCR.
 - Press to decide the command of setting when the menu is displayed.
3. **CHANNEL + / -**
Press to select channels or move up/down through the main menu items.
4. **VOLUME + / -**
Press to adjust the volume or move right (+)/left (-) through the main menu items.
5. **MENU**
Press to display the main menu.
6. **Infrared sensor window**
Receives infrared rays transmitted from the remote control.
7. **Power on indicator**
Lights up when power is on.
8. **Stand by indicator**
Lights up in standby mode.

Rear Panel



1. **PC input jack**
VGA cable connection for PC.
2. **HDMI input jack**
HDMI connection for HDMI devices.
3. **AC power cord**
Connect to a standard AC outlet to supply power to this TV.
4. **Coaxial digital audio output jack**
Coaxial digital audio connection for a decoder or an audio receiver.
5. **S-video input jack**
S-video connection for external devices.
6. **Video input jack**
Video connection for external devices.
7. **Audio input jack for PC connection**
Mini-plug audio cable connection for PC.
8. **Audio input jack**
Audio connection for DVI devices.
(For HDMI1 input jack only)
9. **Audio input jack**
Audio connection for external devices.
10. **Component video and audio input jack**
Component video and audio connection for external devices.
11. **Antenna input jack**
RF coaxial cable connection for your antenna or cable receiver /satellite box.

Buttons on the Remote Control



- 1. POWER** Press to turn the TV on and off.
- 2. SOURCE** Press to access connected external devices like a DVD player or VCR.
- 3. FREEZE** Press to pause screen image.
- 4. / / /** Press to move left/ right/ up/ down through the items.
- 5. BACK** Press to return to the previous menu operation.
- 6. SAP**
Digital Mode (DTV)
 - Press to select the audio language.**Analog Mode (TV)**
 - Press to select the audio mode.
- 7. MUTE** Press to turn the sound on and off.
- 8. VOL. + / -** Press to adjust the volume.
- 9. Number buttons**
 - Press to select channels.
 - (hyphen)**
 - Press to shift the minor channel from the major channel.
- 10. FORMAT** Press to select aspect ratio available for the TV screen.
- 11. MENU** Press to display the main menu.
- 12. OK** Press to decide the command of setting when the main menu is displayed.
- 13. INFO**
Digital Mode (DTV)
 - Press to display the channel information, signal type and TV setting.**Analog Mode (TV)**
 - Press to display the channel number, signal type and TV setting.**External Input Mode**
 - Press to display the external input modes, signal type and TV setting.
- 14. SLEEP** Press to activate the sleep timer.
- 15. PREV CH** Press to return to the previous channel.
- 16. CH. + / -** Press to select channels and the external input modes.

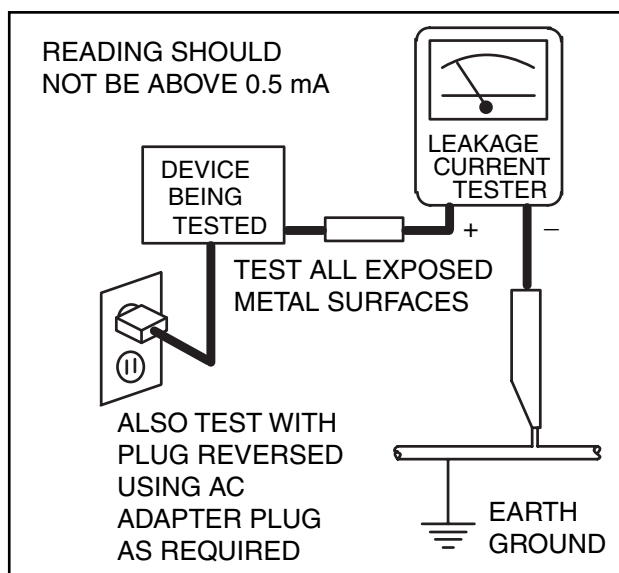
3. IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for LCD TV Circuit

1. **Before returning an instrument to the customer**, always make a safety check of the entire instrument, including, but not limited to, the following items:
 - a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
 - b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the Liquid Crystal Panel and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
 - c. **Antenna Cold Check** - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
 - d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a

metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the Liquid Crystal Panel.
3. **Design Alteration Warning** - Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for

personal injury or property damage resulting therefrom.

4. Hot Chassis Warning -

- a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0 V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
- b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
- c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

5. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

6. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

7. **Product Safety Notice** - Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a  on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products

are strictly inspected to confirm they comply with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

- A.** Parts identified by the  symbol are critical for safety.
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers
 - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.
- H.** When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC supply outlet.
- L.** When installing parts or assembling the cabinet parts, be sure to use the proper screws and tighten certainly.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

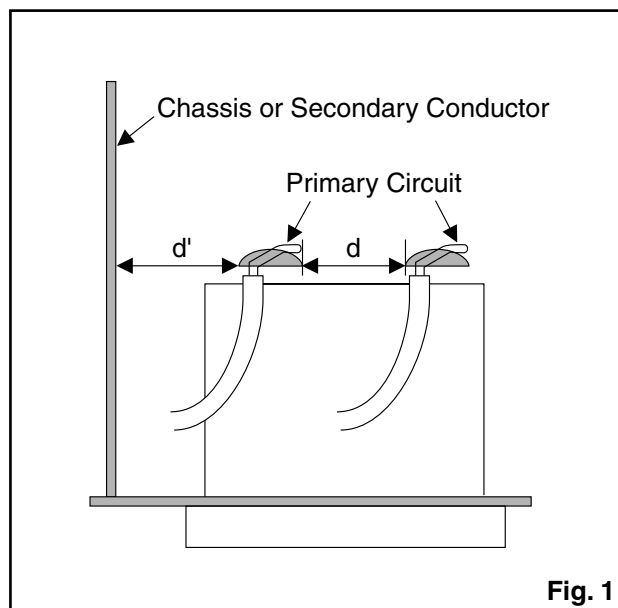


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

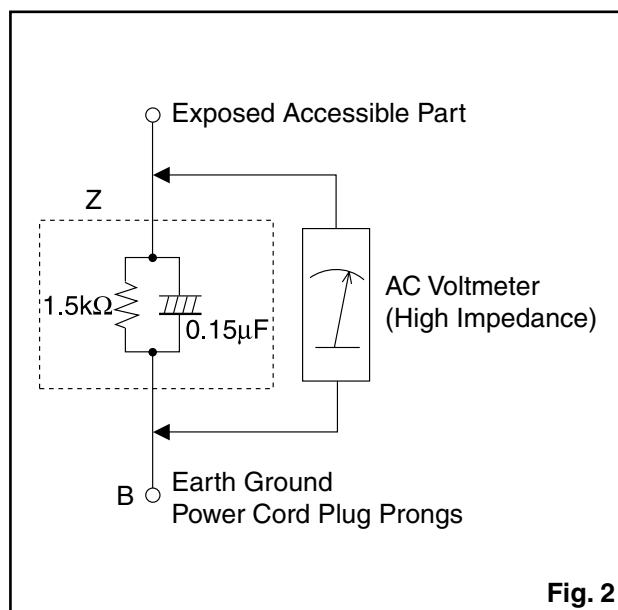


Fig. 2

Table 2: Leakage current ratings for selected areas

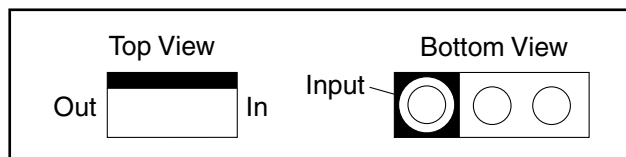
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μ F CAP. & 1.5 k Ω RES. Connected in parallel	$i \leq 0.5$ mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

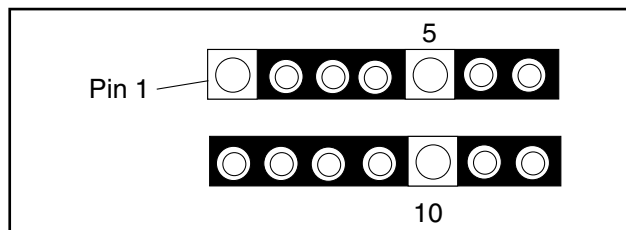
4. STANDARD NOTES FOR SERVICING

Circuit Board Indications

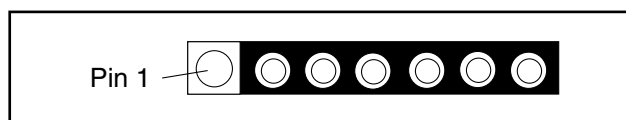
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.



3. The 1st pin of every male connector is indicated as shown.



Pb (Lead) Free Solder

When soldering, be sure to use the Pb free solder.

Information about lead-free soldering

Philips CE is producing lead-free sets from 1.1.2005 onwards.

IDENTIFICATION

Regardless of special logo (not always indicated)



One must treat all sets from **1 Jan 2005** onwards, according to the next rule:

Serial Number gives a 14-digit. Digit 5&6 shows the YEAR, and digit 7&8 shows the WEEK.

So from **0501** onwards=from 1 Jan 2005 onwards

Important note: In fact also products of year 2004 must be treated in this way as long as you avoid mixing solder-alloys (lead-ed/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around **360°C - 380°C** is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.

- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free).
If one cannot avoid or does not know whether product is lead-free, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use the lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. (MSL=Moisture Sensitivity Level). This will be communicated via AYS-website. Do not re-use BGAs at all.
- For sets produced before 1.1.2005 (except products of 2004), containing leaded solder-alloy and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.

For additional questions please contact your local repair-helpdesk.

Alternative BOM Identification

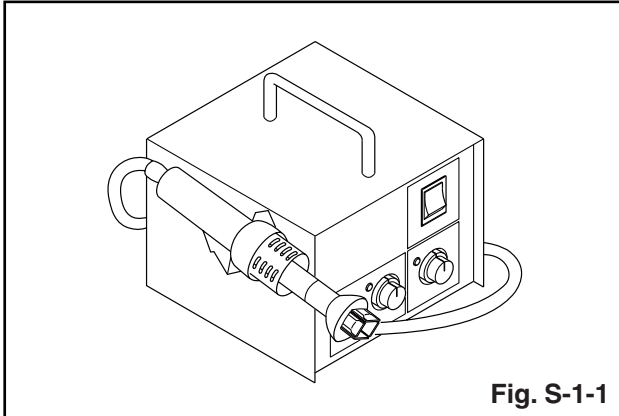
In September 2003, Philips CE introduced a change in the way the serial number is composed. From this data on, the **third digit** in the serial number (example: AG2B0335000001) indicates the number of the alternative BOM (Bill of Materials used for producing the specific model of TV set). It is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different O.E.M.s. By looking at the third digit of the serial number, the service technician can see if there is more than one type of B.O.M. used in the production of the TV set he is working with. He can then consult the At Your Service Web site, where he can type in the Commercial Type Version Number of the TV set (e.g. 28PW9515/12), after which a screen will appear that gives information about the number of alternative B.O.M.s used. If the third digit of the serial number contains the number 1 (example: AG1B0335000001), then there is only one B.O.M. version of the TV set on the market. If the third digit is a 2 (example: AG2B0335000001), then there are two different B.O.M.s. Information about this is important for ordering the correct spare parts! For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26 = 35 different B.O.M.s can be indicated by the third digit of the serial number.

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

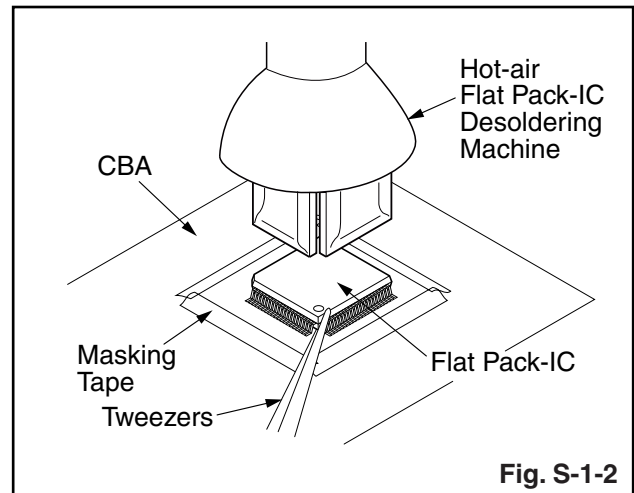


2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

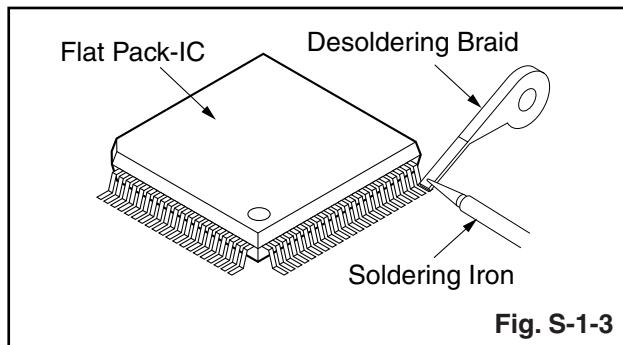
1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

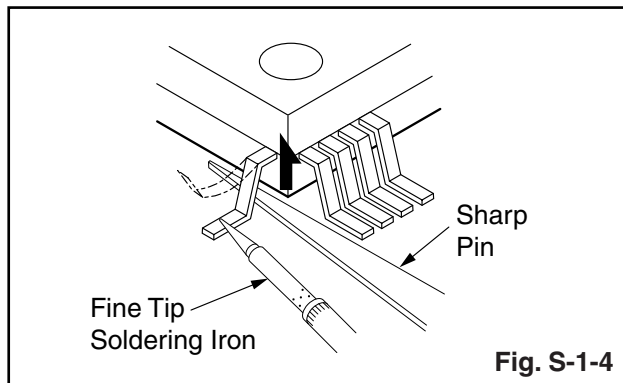


With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)



2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

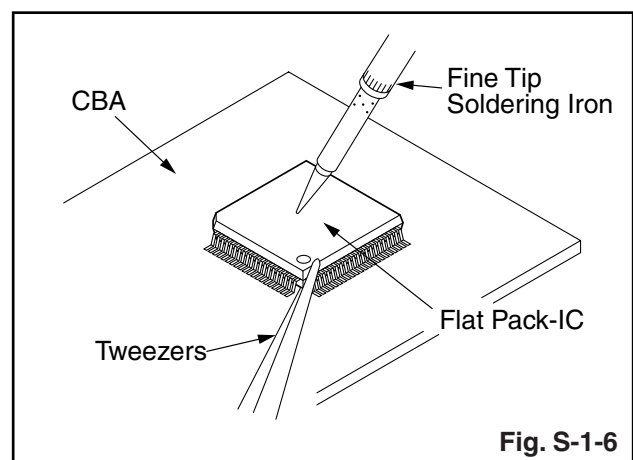
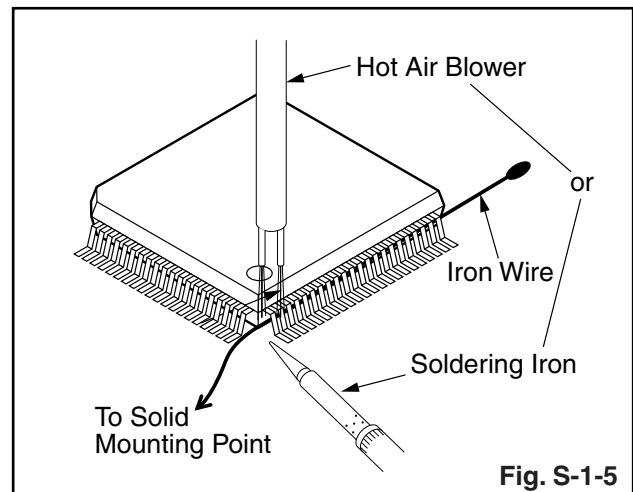


3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

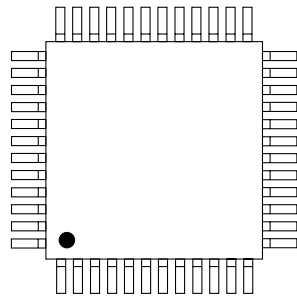
Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.



2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

Example :



Pin 1 of the Flat Pack-IC is indicated by a "●" mark.

Fig. S-1-7

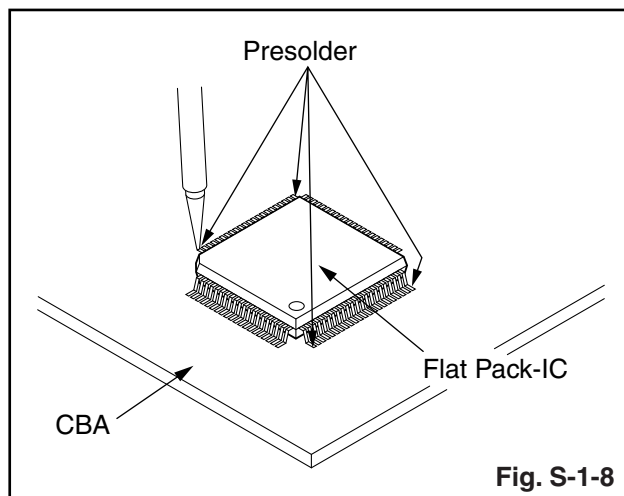


Fig. S-1-8

Instructions for Handling Semi-conductors

Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

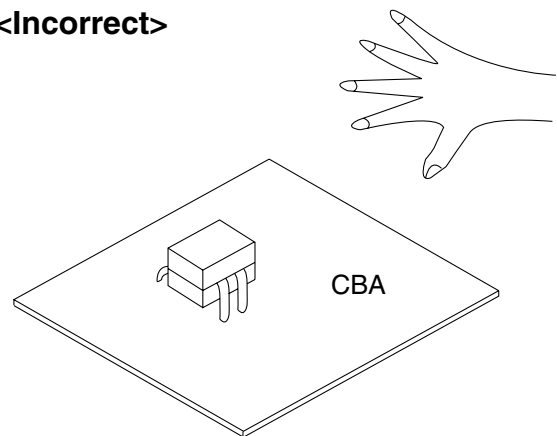
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

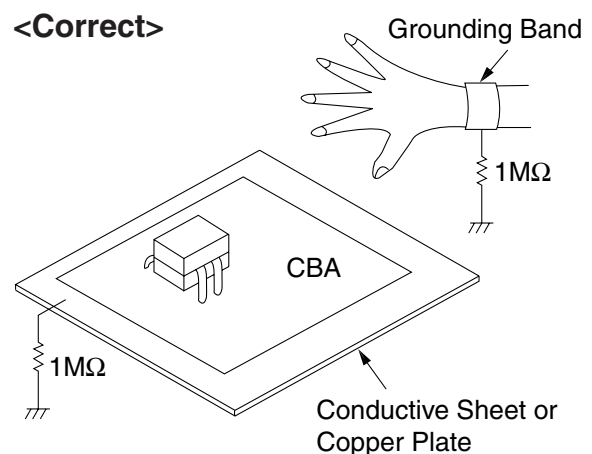
2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.

<Incorrect>



<Correct>



5. Directions for Use

You can download this information from the following website:

<http://www.philips.com/support>

<http://www.p4c.philips.com>

OSD Menu list

Menu Label

1st Layer	2nd Layer	3rd Layer	4th Layer	5th Layer
EXIT				
Picture	Smart Picture	Nature		
		Rich		
		Movie		
		Soft		
		Brightness	slider	
		Contrast	slider	
		Color	slider	
		Tint	slider	
		Sharpness	slider	
		Reset Picture Setting	Off	
			Reset to default	
	Color temperature	Cool		
		Normal		
		Warm		
Sound	Energy Saving	slider		
	Treble	slider		
	Bass	slider		
	Reset Sound Setting	Off		
		Reset to default		
Setup	Autoprogram	Back		
		Air		
		Analog Cable		
		Auto		
	Channel List			
Features	Closed Caption	Conventional CC	Off	
			CC-1	
			CC-2	
			CC-3	
			CC-4	
			T-1	
			T-2	
			T-3	
			T-4	
		DTV CC	Off	
			CS-1	
			CS-2	
			CS-3	
			CS-4	
			CS-5	
			CS-6	
		CC Style	User Setting	On
				Off
			Font Style	
			Font Size	
			Font Color	
			Font Opacity	
			Back Color	
			Back Opacity	
			Edge Color	
			Edge Type	
	Parental Control	Enter Pin	US Movie ratings lock	
			US TV ratings lock	
			Canadian English Rating	
			Canadian French Rating	
			Region ratings lock	
			Clear Regions lock	
			Change Pin	
	PC Settings	Auto Adjustment	slider	
		Horizontal Position	slider	
		Vertical Position	slider	
		Clock	slider	
		Phase	slider	
	HDMI1 Audio	Auto		
		Digital		
		Analog		
Language	English			
	Español			
	Français			

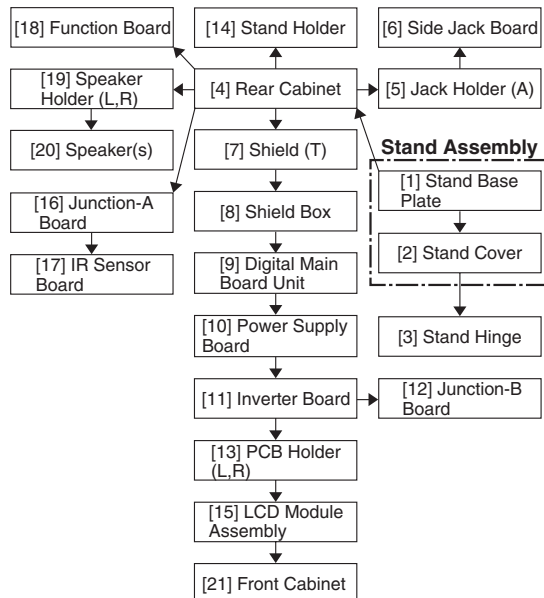
Live TV Label

1st Layer	2nd Layer	3rd Layer	4th Layer	5th Layer
Picture Mode	for 4:3 signal	for 16:9 signal		
	Normal	Normal		
	16:9	Zoom		
	Movie expand	Movie expand		
	Wide	Wide		

6. CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the Board in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Stand Base Plate	D1	4(S-1), 3(S-2), 4(S-3)	---
[2]	Stand Cover	D1	-----	---
[3]	Stand Hinge	D1	-----	---
[4]	Rear Cabinet	D1	12(S-4), (S-5), 2(S-6)	---
[5]	Jack Holder (A)	D2	(S-7)	---
[6]	Side Jack Board	D2 D5	2(S-8), *CN751	---
[7]	Shield (T)	D2	(S-9), (S-10), (N-1)	---
[8]	Shield Box	D2	2(S-11), 2(S-12), 3(S-13), 4(S-14)	---
[9]	Digital Main Board Unit	D2 D5	*CN3601, *CN3701, *CN3704, *CN4501, *CN4502	---
[10]	Power Supply Board	D2 D5	7(S-15), *CN102, *CN501, *CN801, *CN802, *CN1901	---

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[11]	Inverter Board	D3 D5	7(S-16), *CN1050, *CN1100, *CN1150, *CN1200, *CN1250	---
[12]	Junction-B Board	D3 D5	Desolder	---
[13]	PCB Holder (L,R)	D3	4(S-17)	---
[14]	Stand Holder	D3	2(S-18), 2(S-19)	---
[15]	LCD Module Assembly	D4	4(S-20)	---
[16]	Junction-A Board	D4 D5	Desolder	---
[17]	IR Sensor Board	D4 D5	2(S-21), *CL102A	---
[18]	Function Board	D4 D5	2(S-22)	---
[19]	Speaker Holder (L,R)	D4	4(S-23)	---
[20]	Speaker(s)	D4	-----	---
[21]	Front Cabinet	D4	-----	---

↓ ↓ ↓ ↓ ↓
 (1) (2) (3) (4) (5)

Note:

- (1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.
- (2) Parts to be removed or installed.
- (3) Fig. No. showing procedure of part location
- (4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
N = Nut, L = Locking Tab, S = Screw,
CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)
- (5) Refer to the following "Reference Notes in the Table."

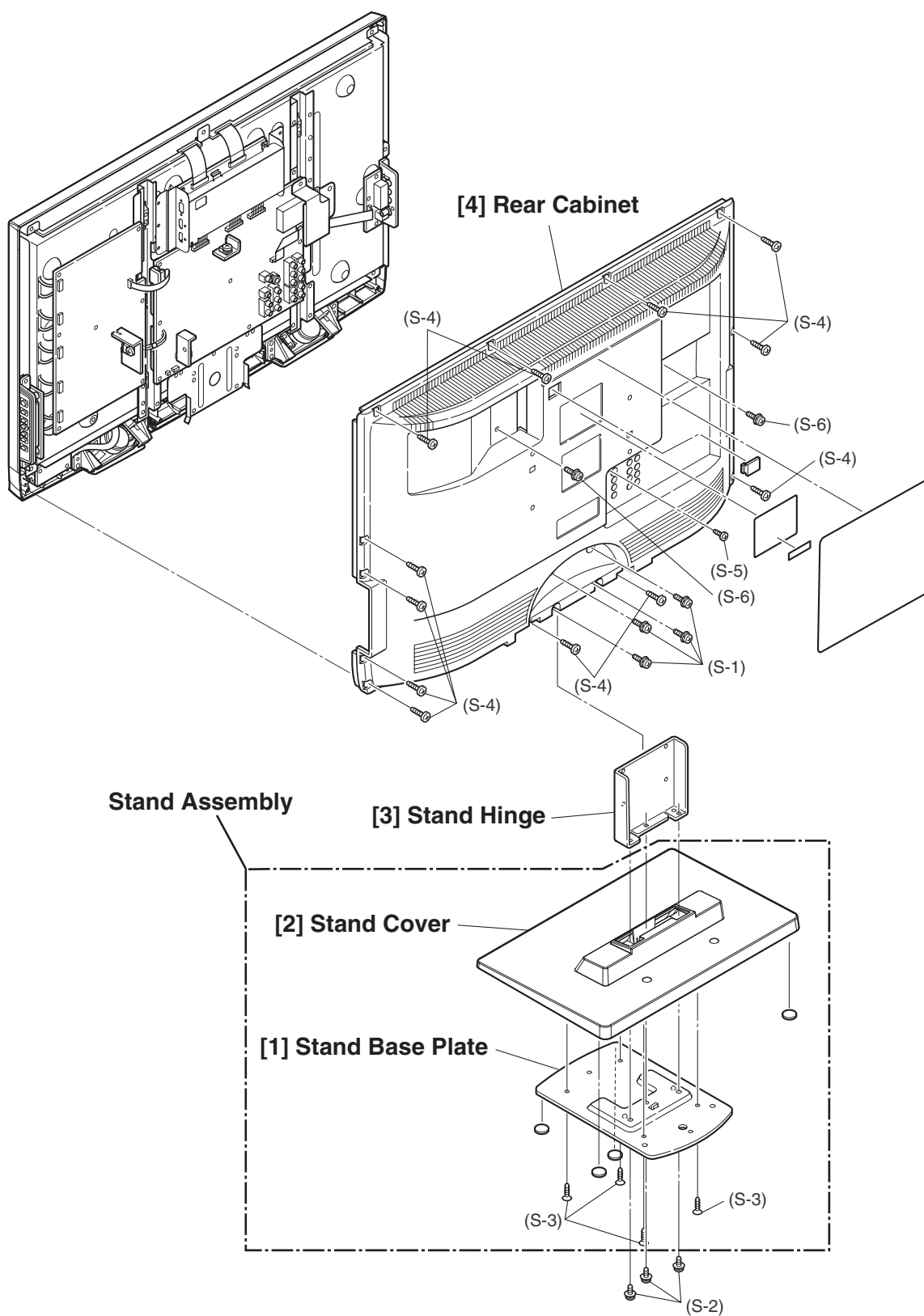


Fig. D1

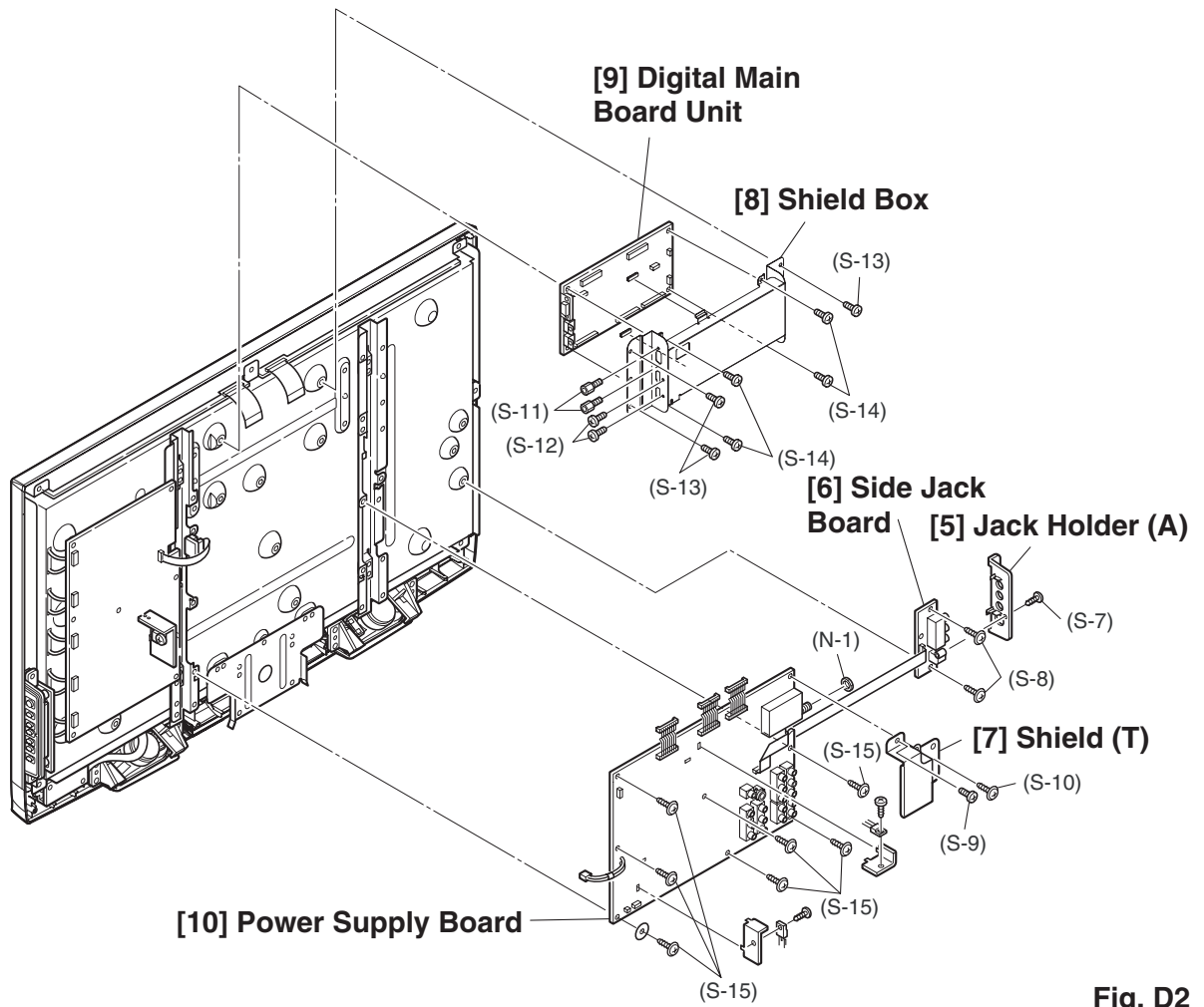


Fig. D2

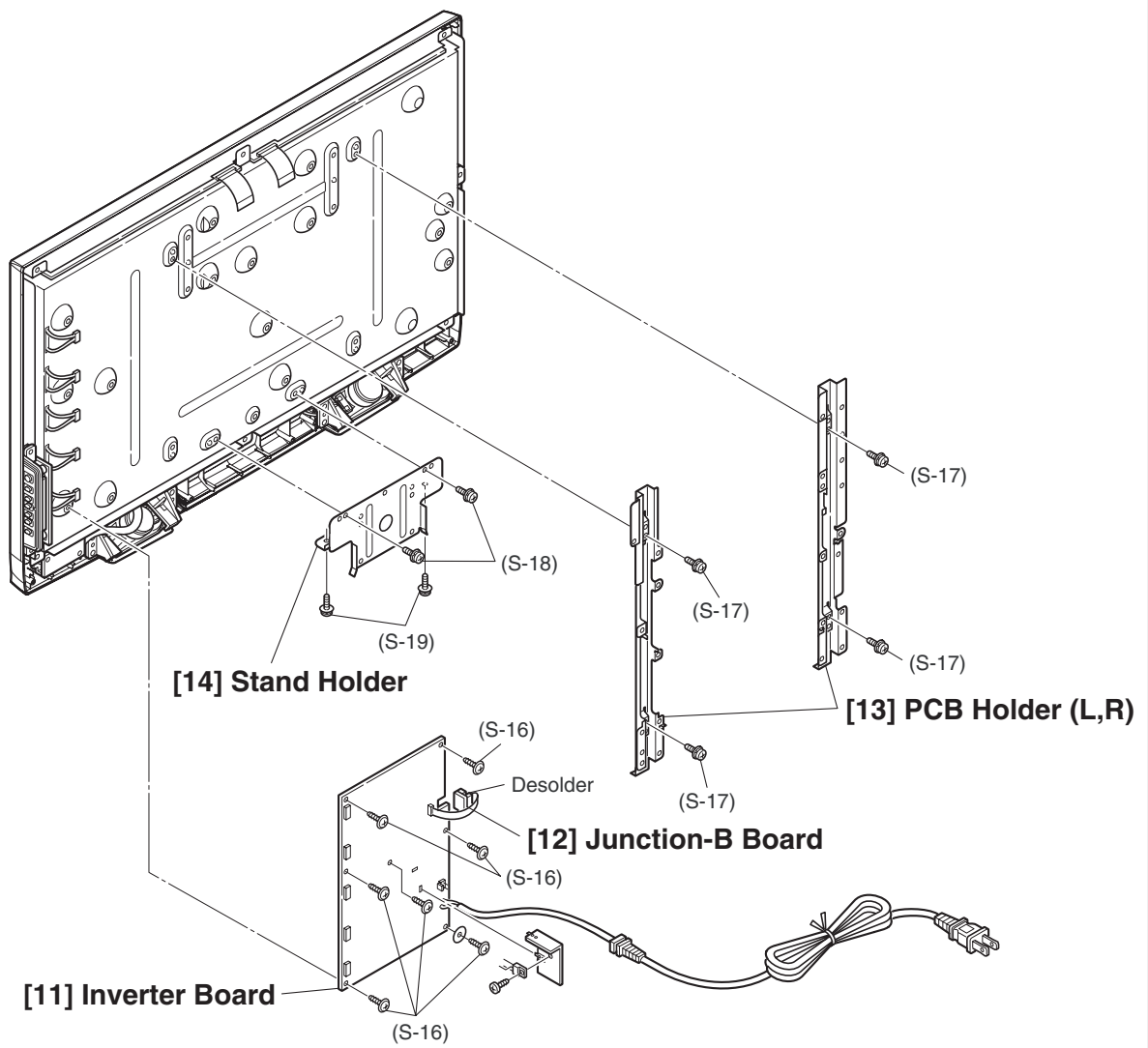


Fig. D3

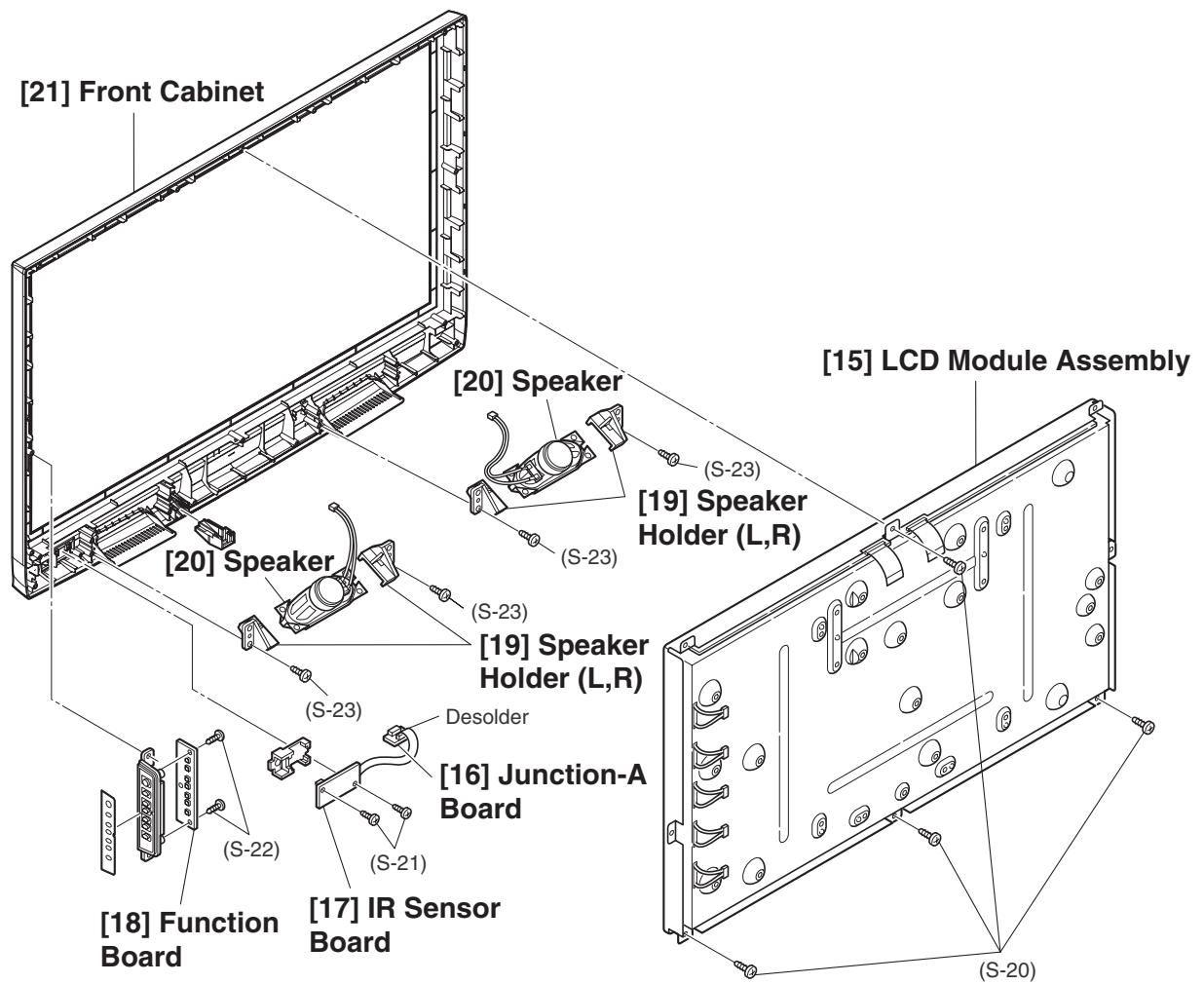


Fig. D4

TV Cable Wiring Diagram

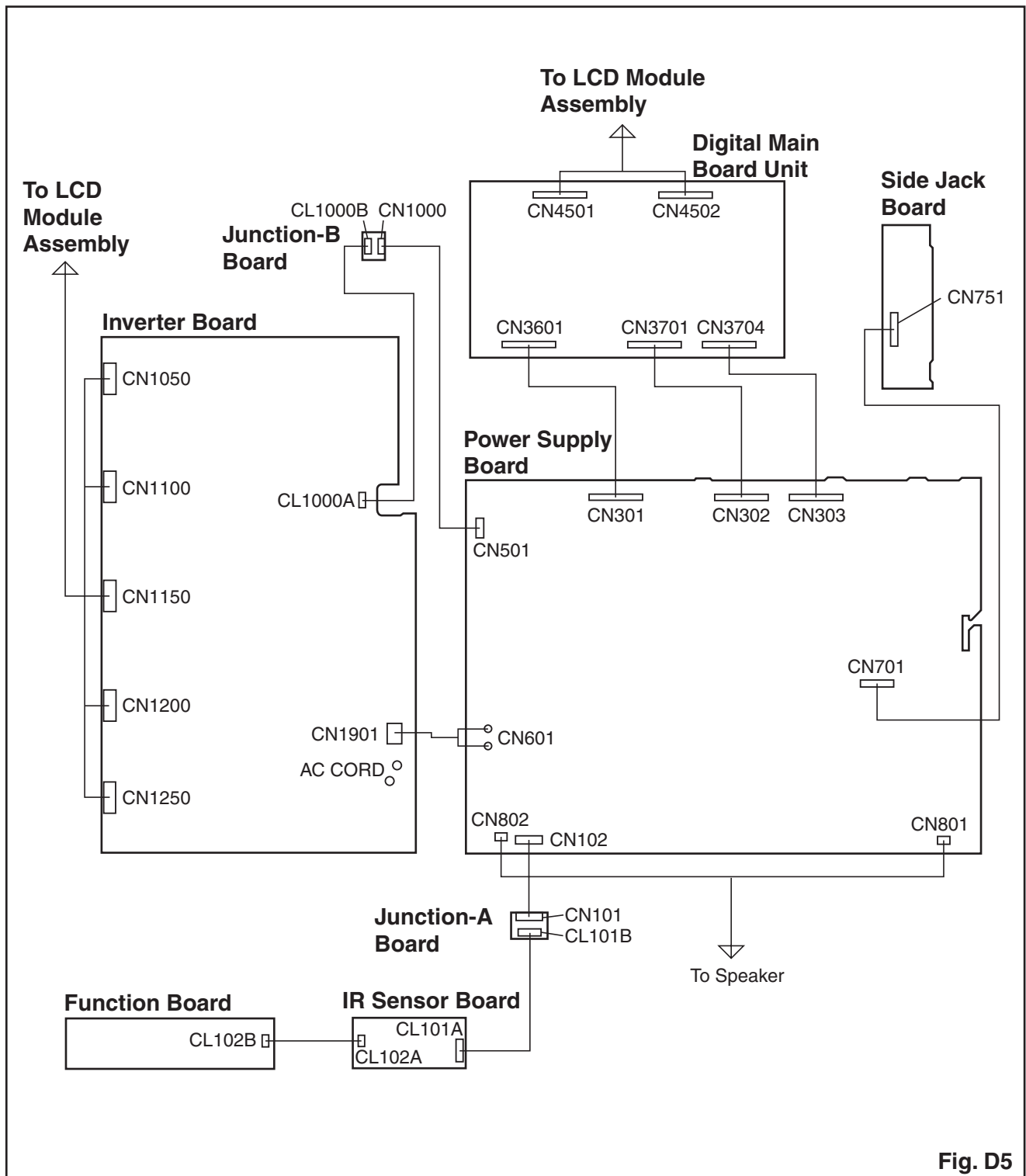
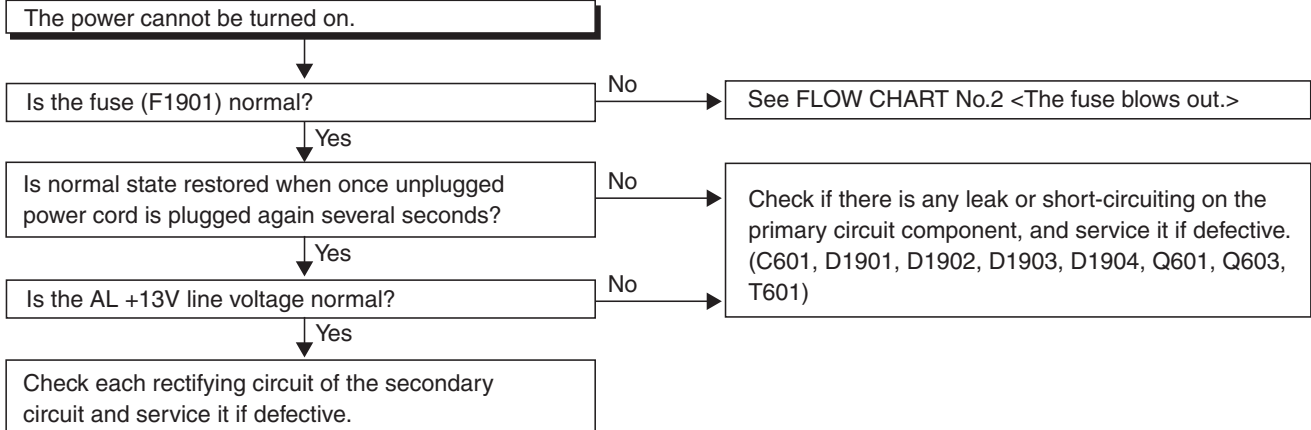


Fig. D5

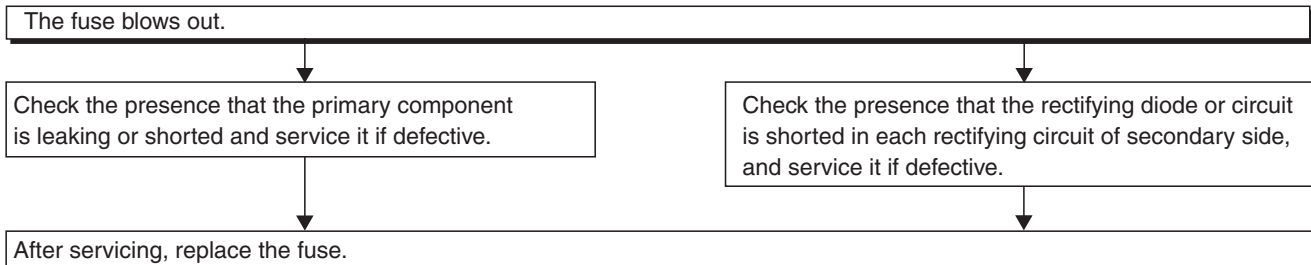
7. TROUBLESHOOTING

7.1 Power Supply Section

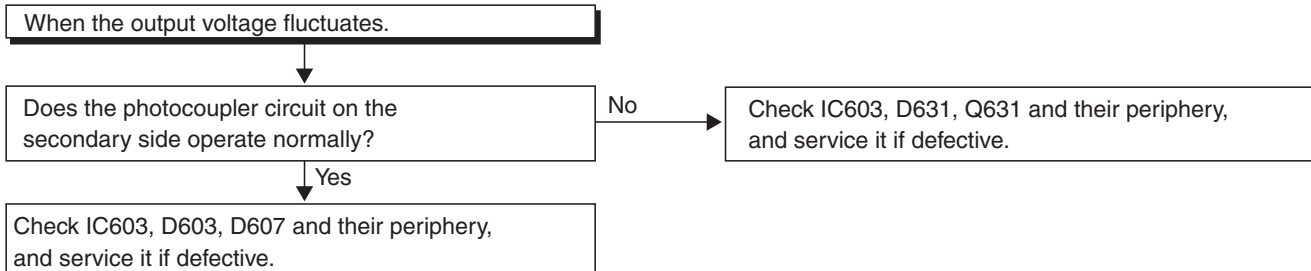
FLOW CHART NO.1



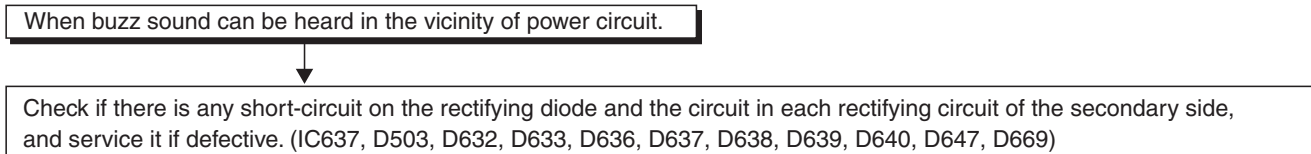
FLOW CHART NO.2



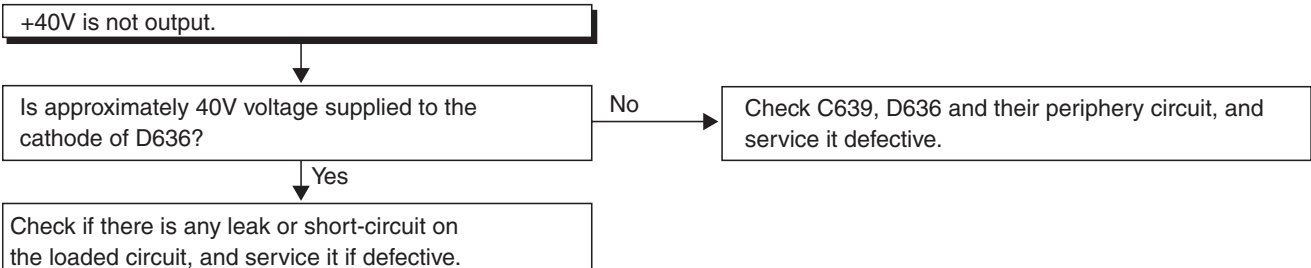
FLOW CHART NO.3

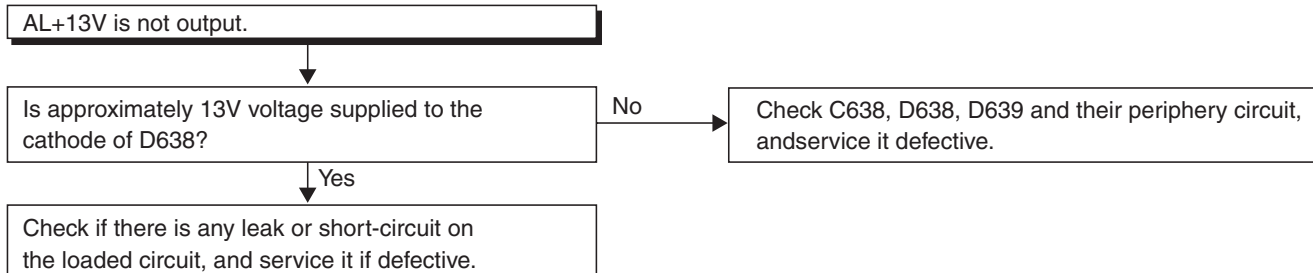
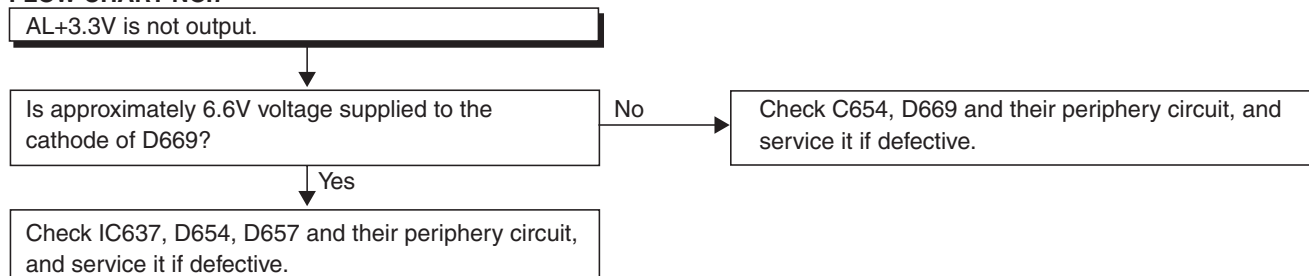
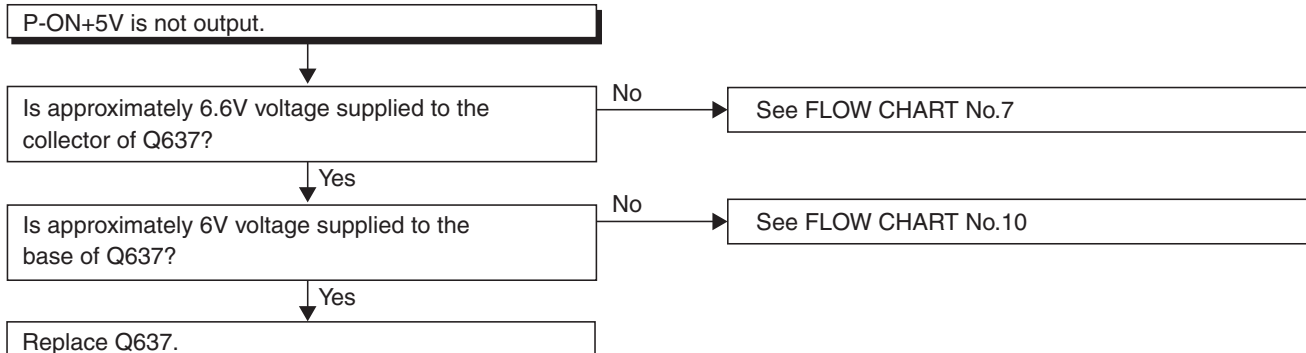
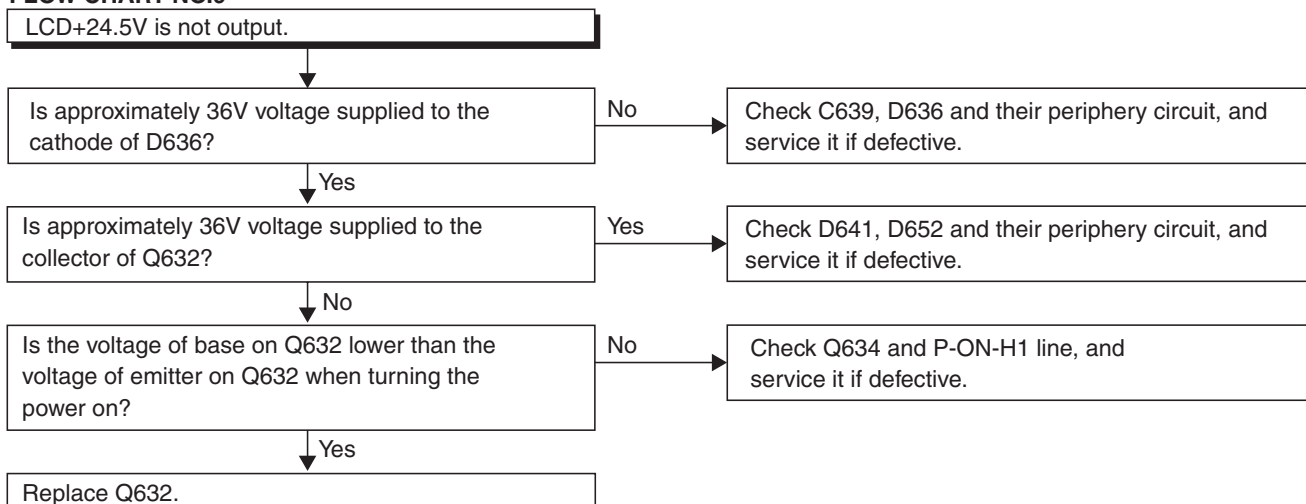


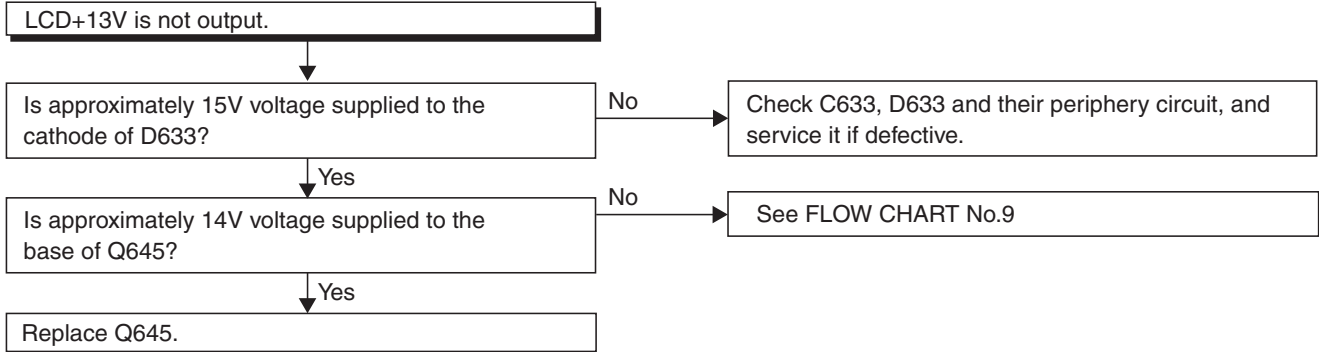
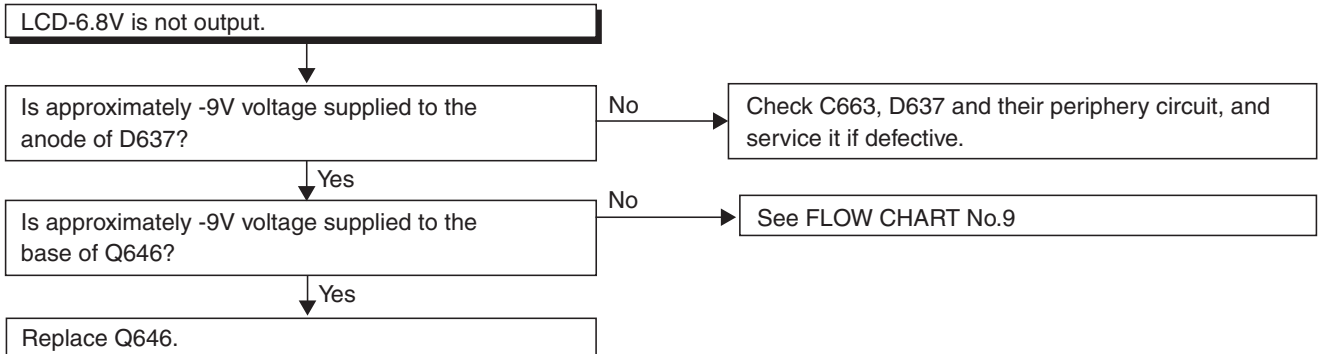
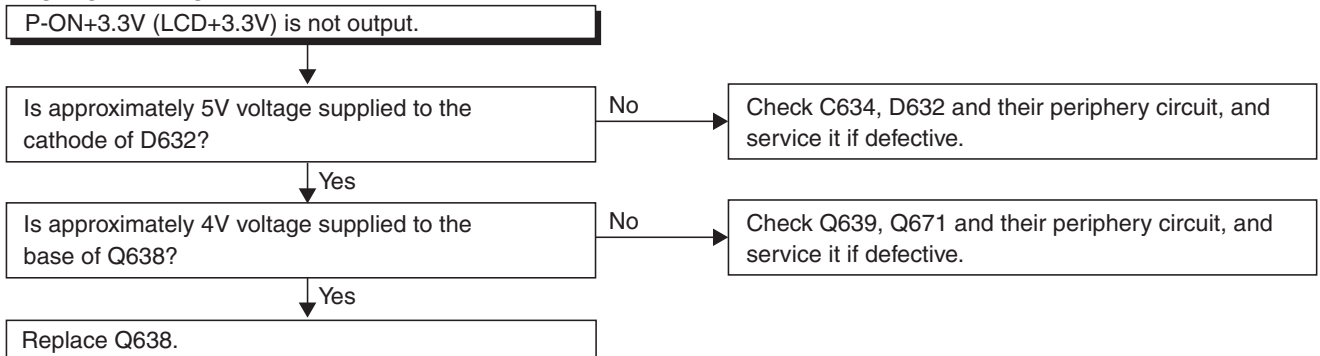
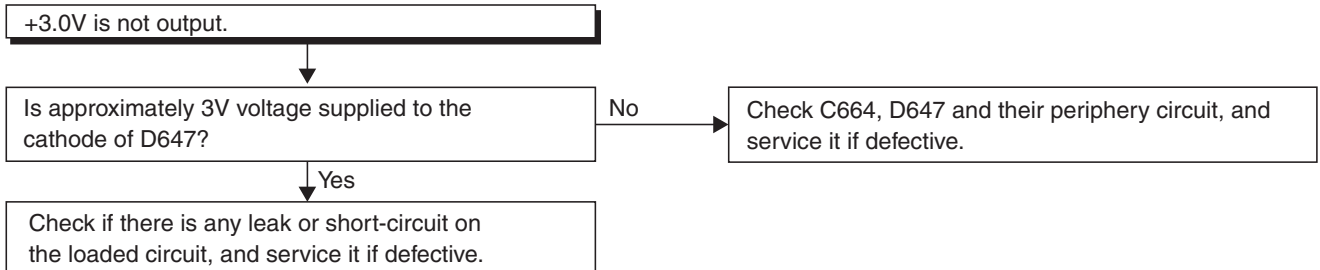
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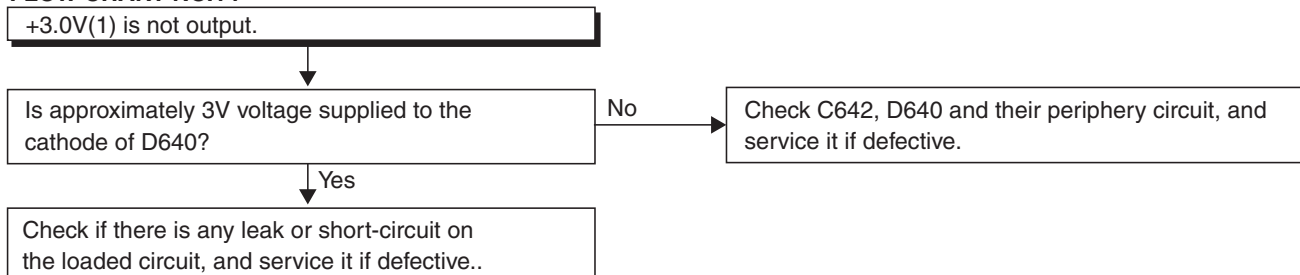
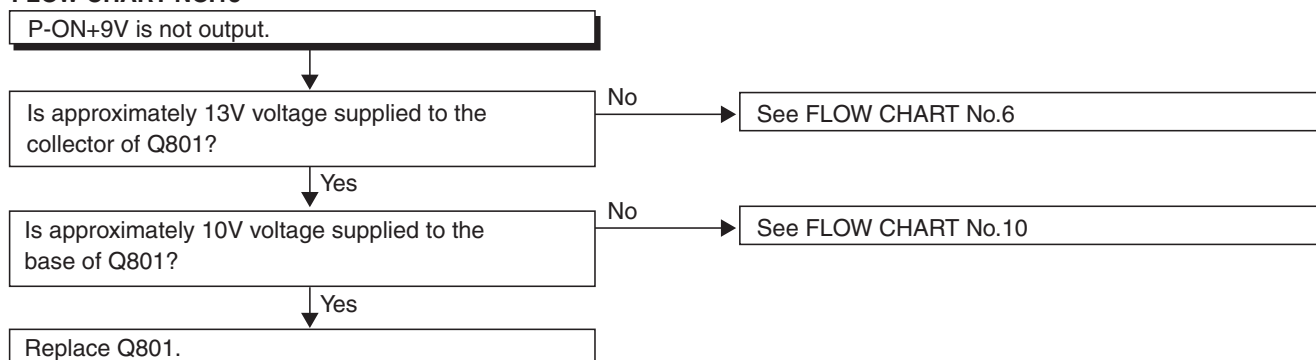
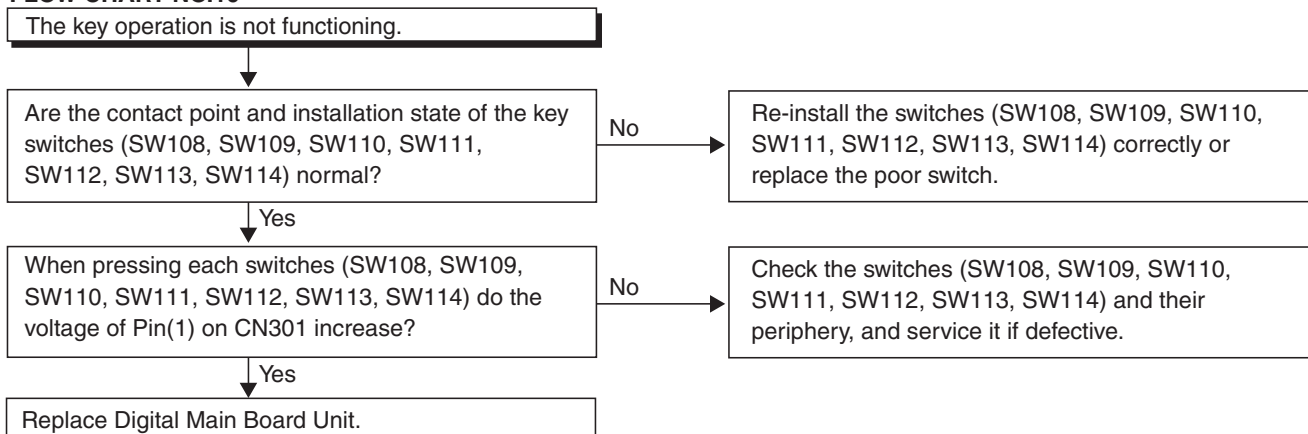


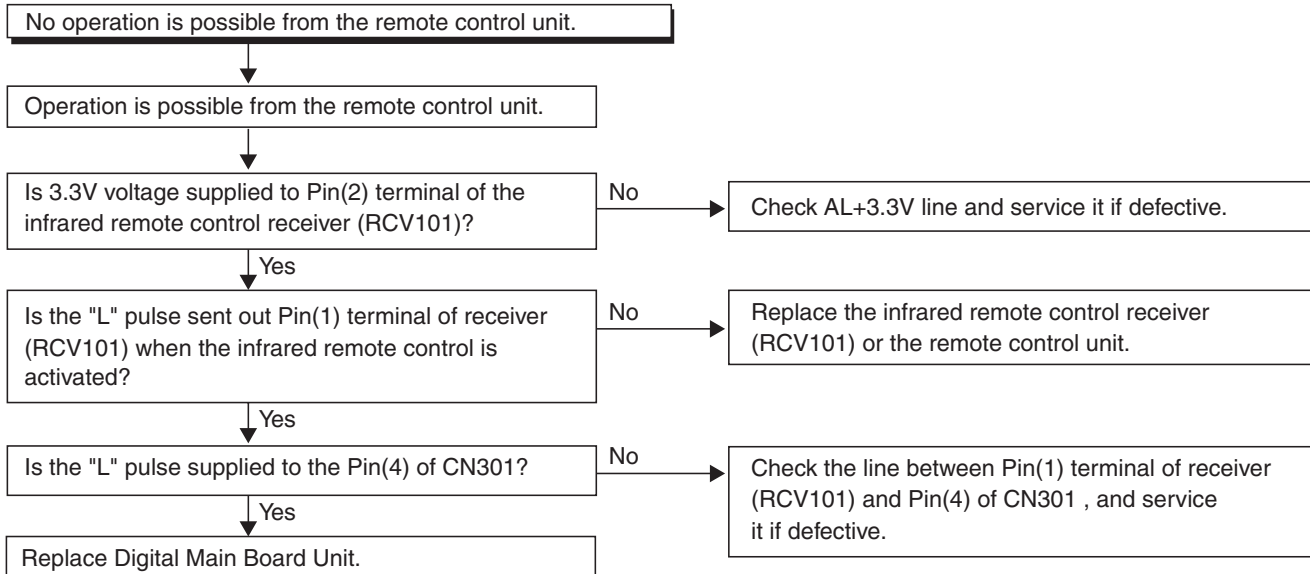
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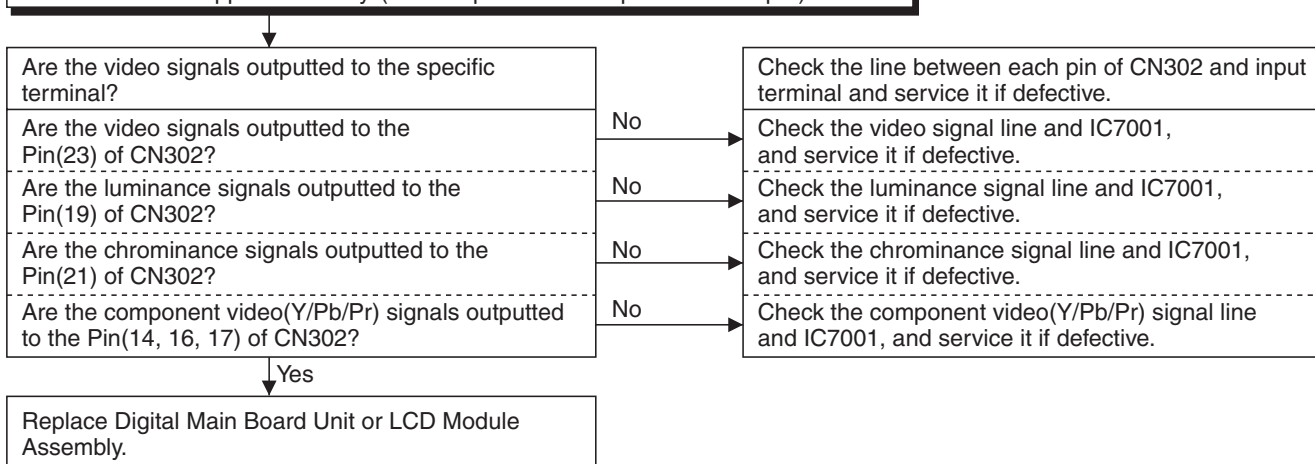
FLOW CHART NO.6**FLOW CHART NO.7****FLOW CHART NO.8****FLOW CHART NO.9**

FLOW CHART NO.10**FLOW CHART NO.11****FLOW CHART NO.12****FLOW CHART NO.13**

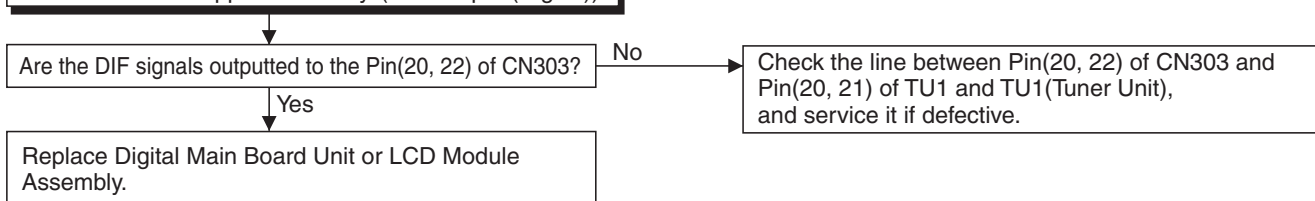
FLOW CHART NO.14**FLOW CHART NO.15****FLOW CHART NO.16**

FLOW CHART NO.17**7.2 Video Signal Section****FLOW CHART NO.18**

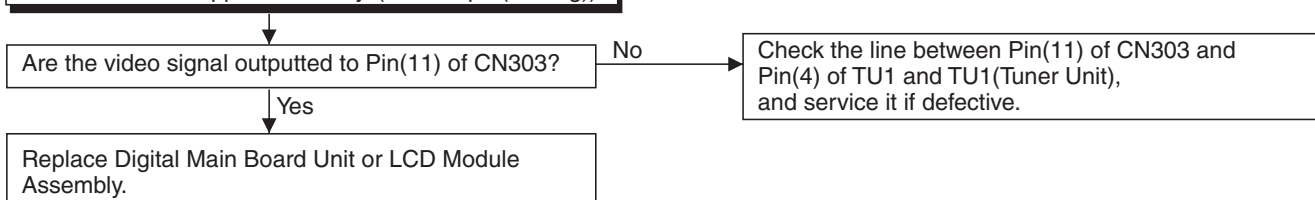
Picture does not appear normally. (Video input/S-Video input/Y/Pb/Pr input)

**FLOW CHART NO.19**

Picture does not appear normally. (Tuner input (Digital))

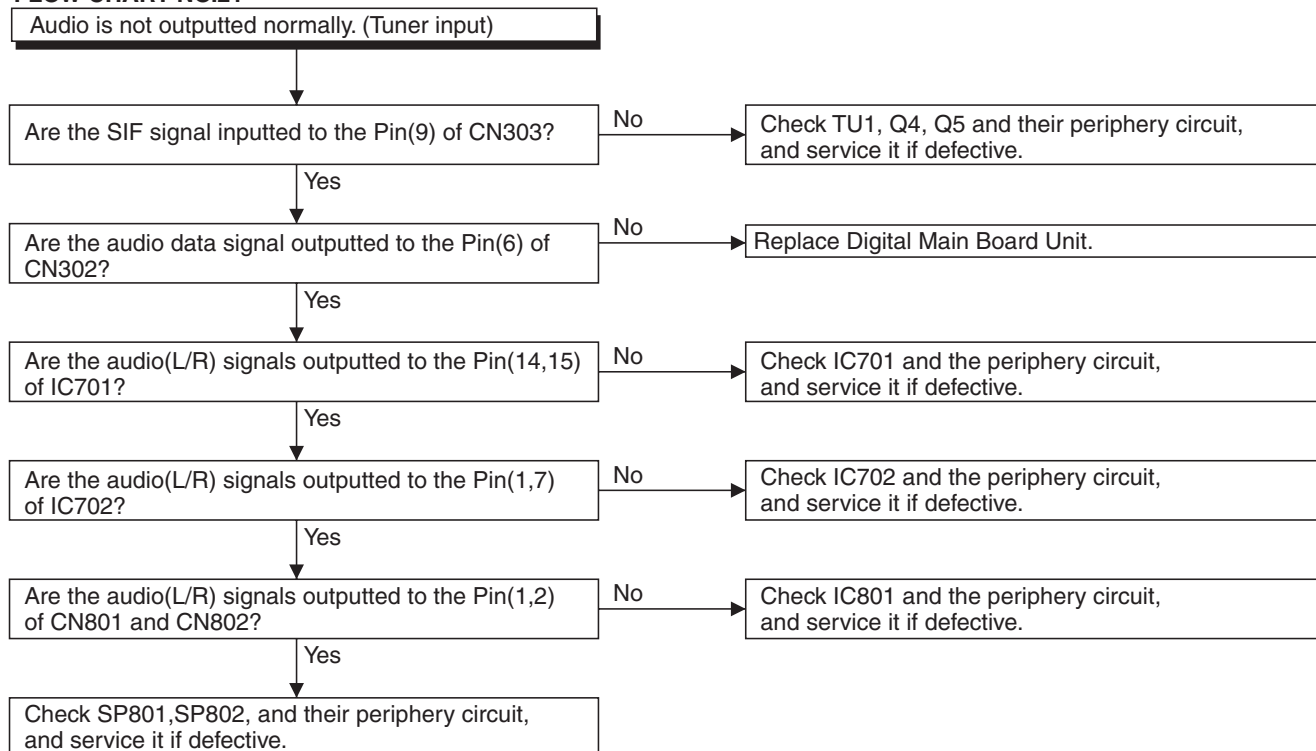
**FLOW CHART NO.20**

Picture does not appear normally. (Tuner input(Analog))

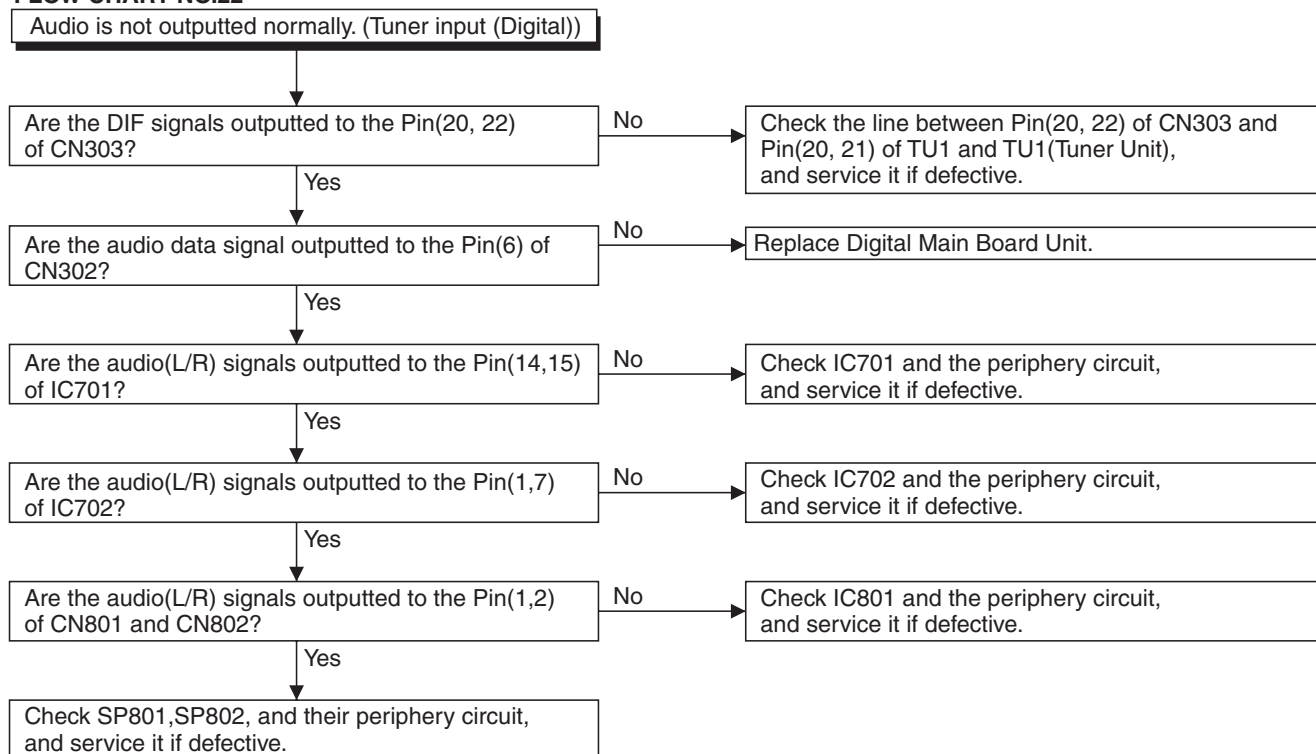


7.3 Audio Signal Section

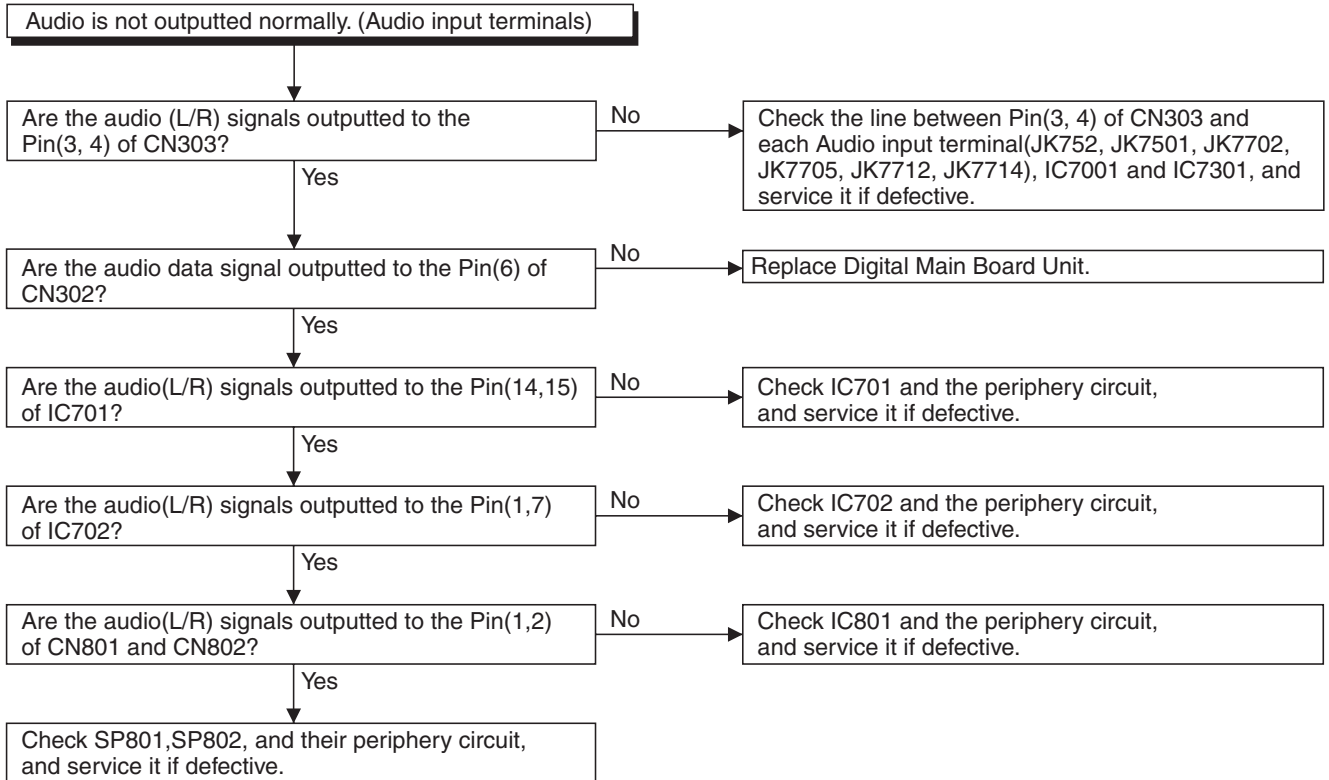
FLOW CHART NO.21



FLOW CHART NO.22

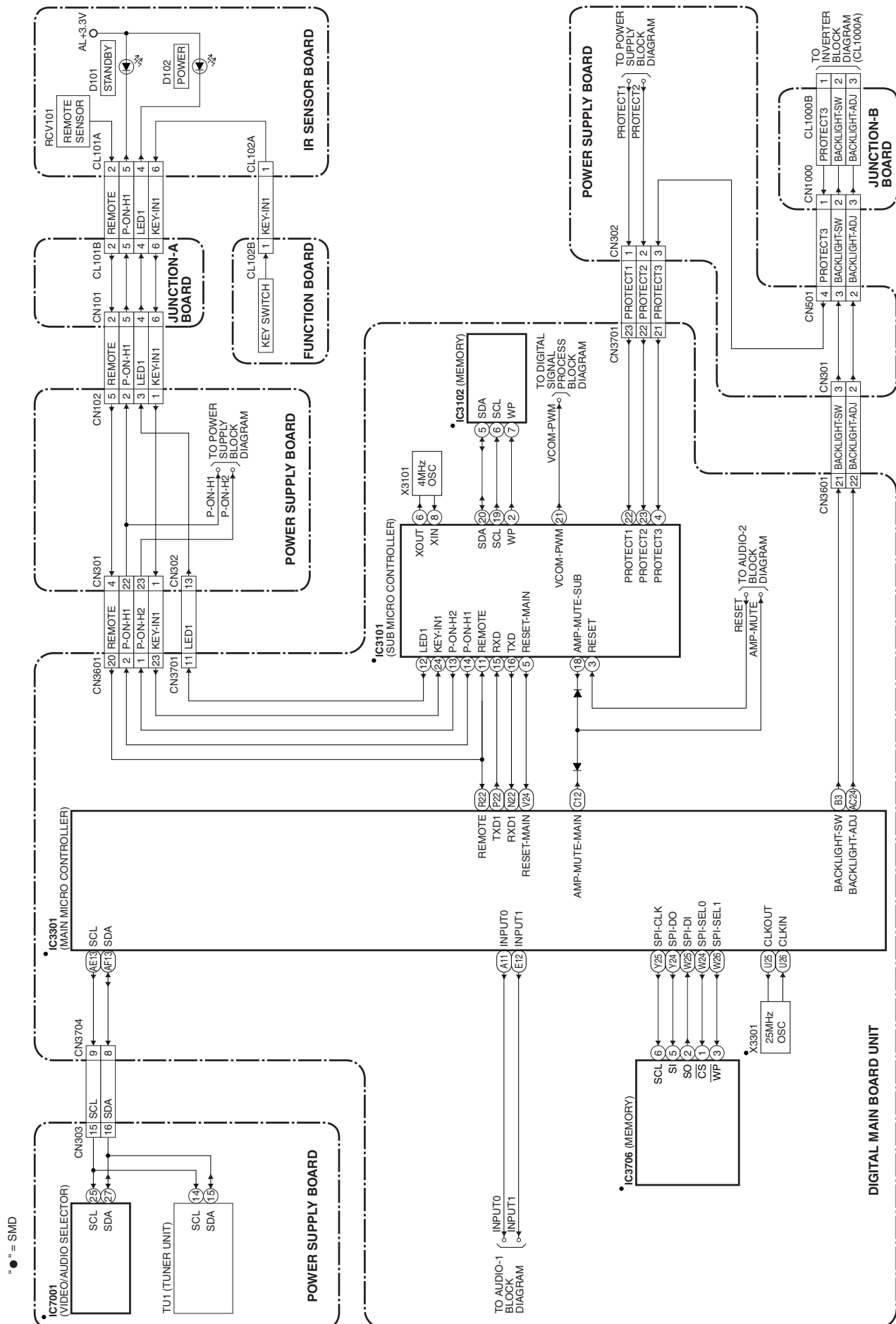


FLOW CHART NO.23

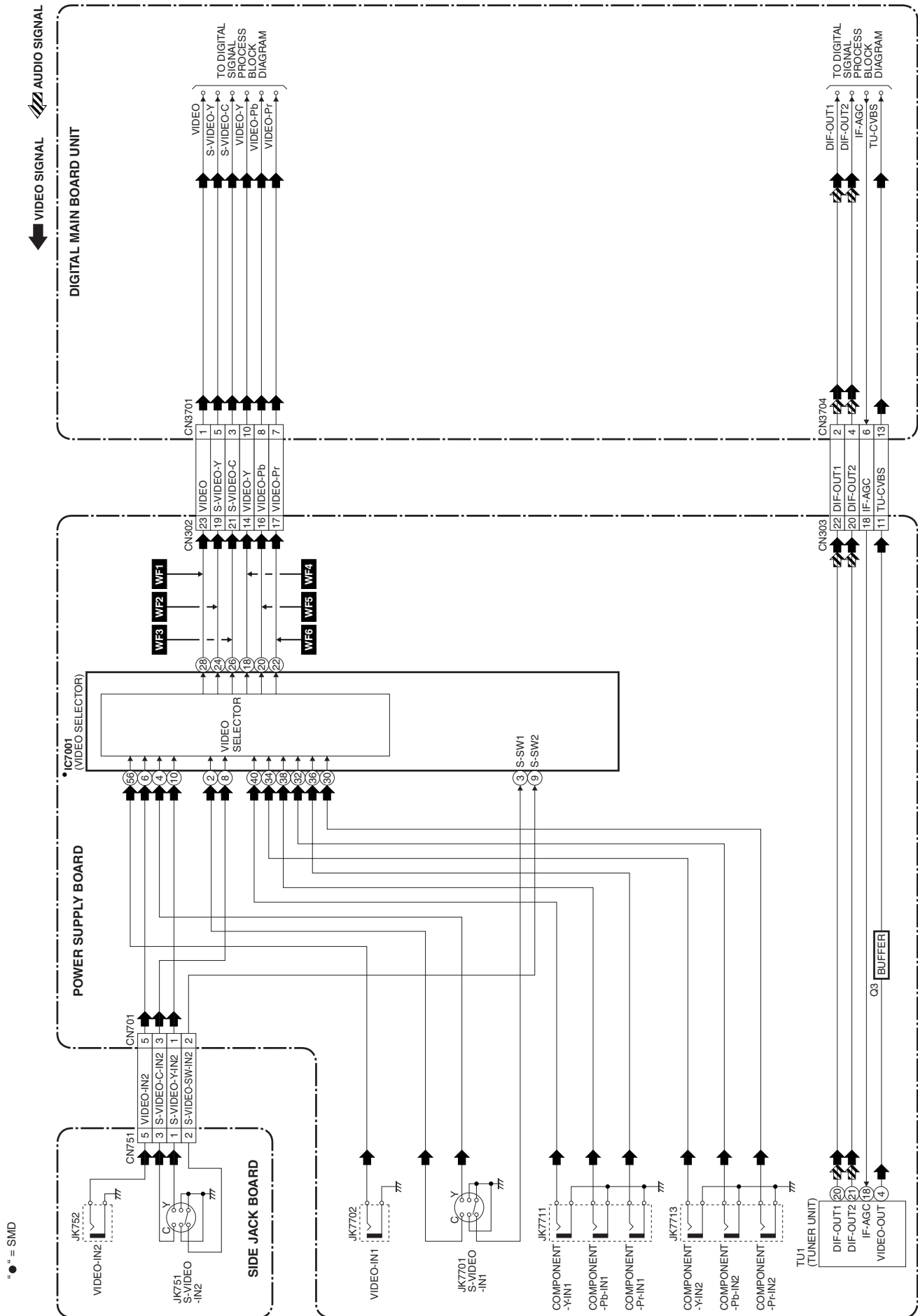


8. BLOCK DIAGRAM

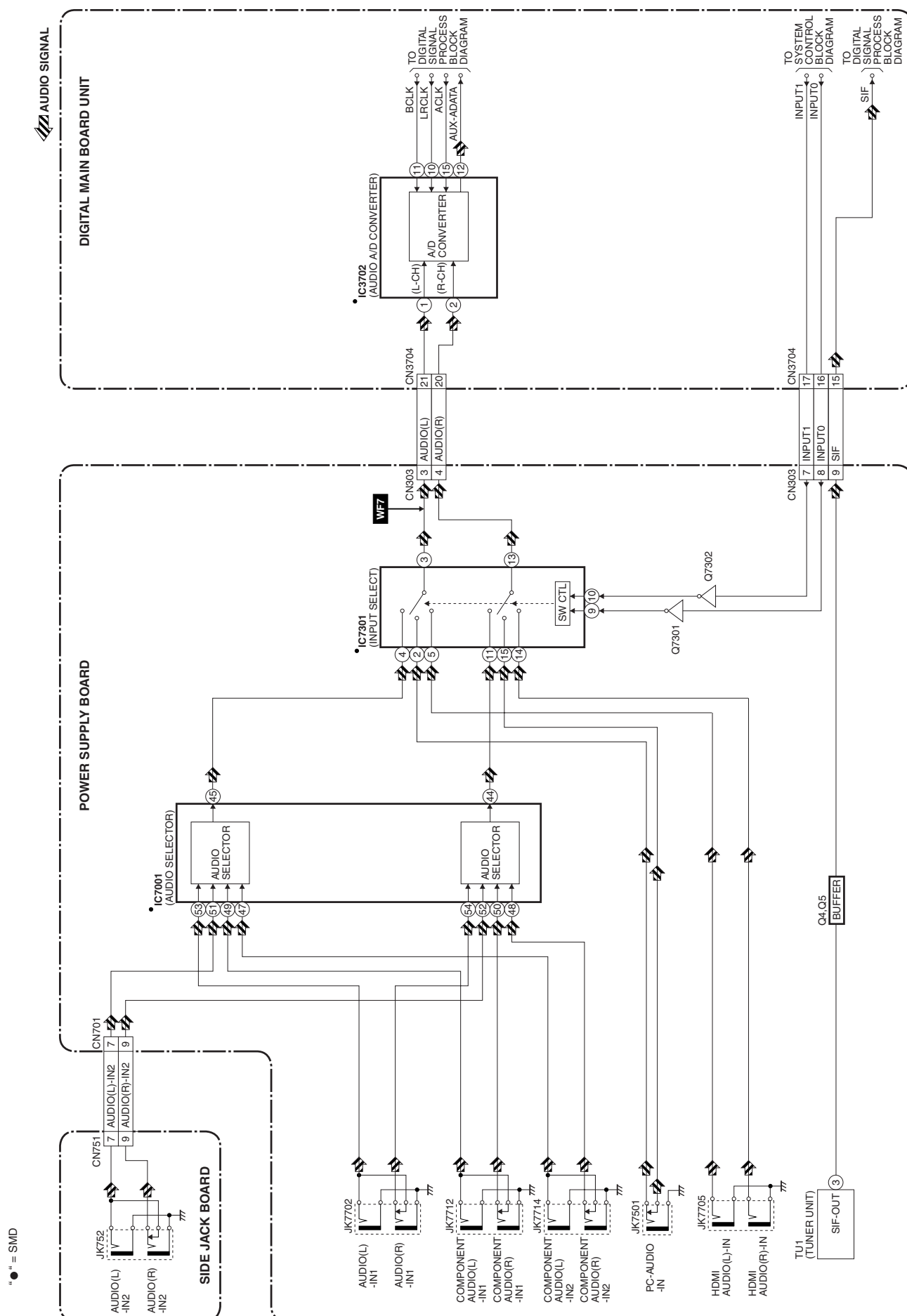
8.1 System Control Block Diagram



8.2 Video Block Diagram

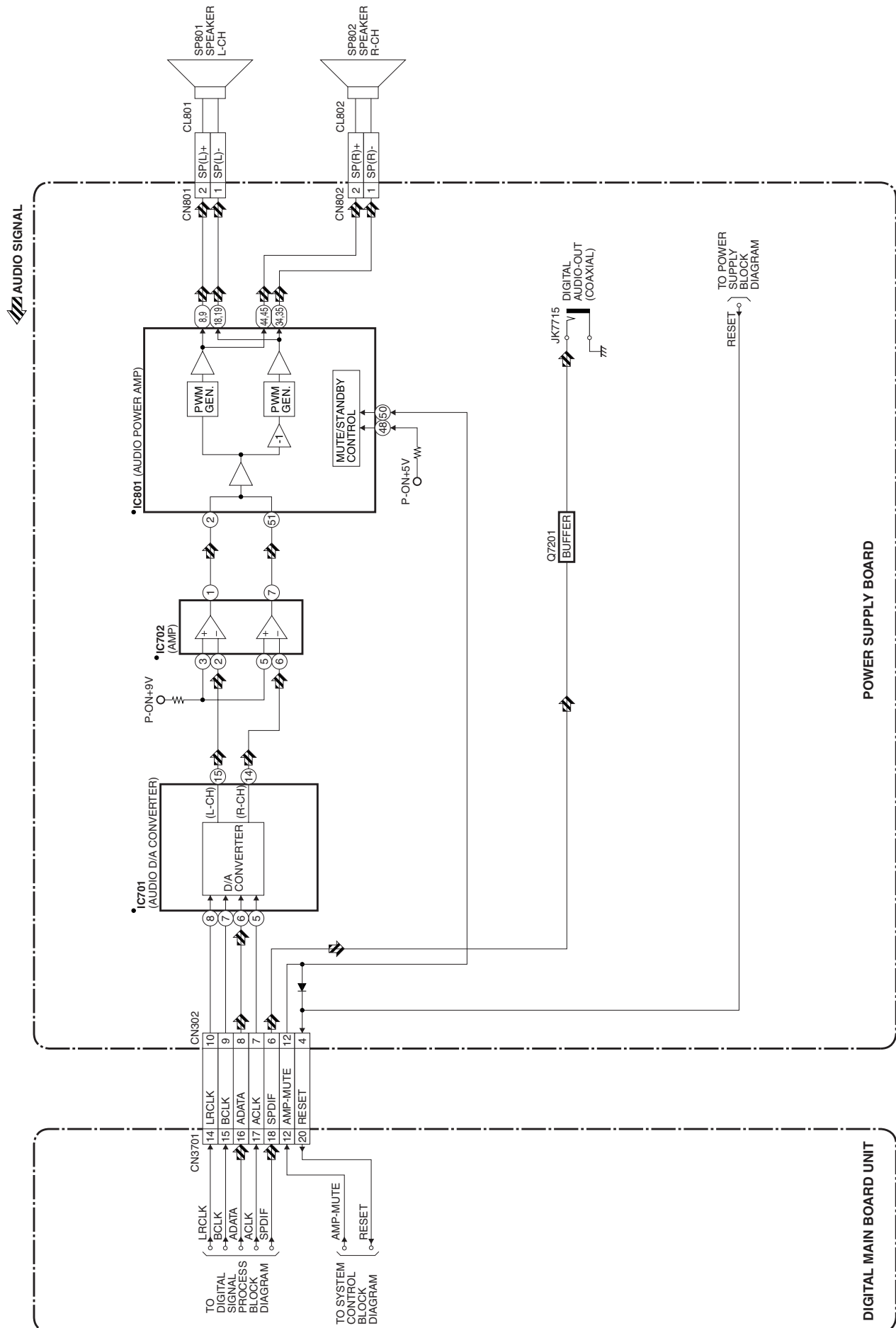


8.3 Audio-1 Block Diagram

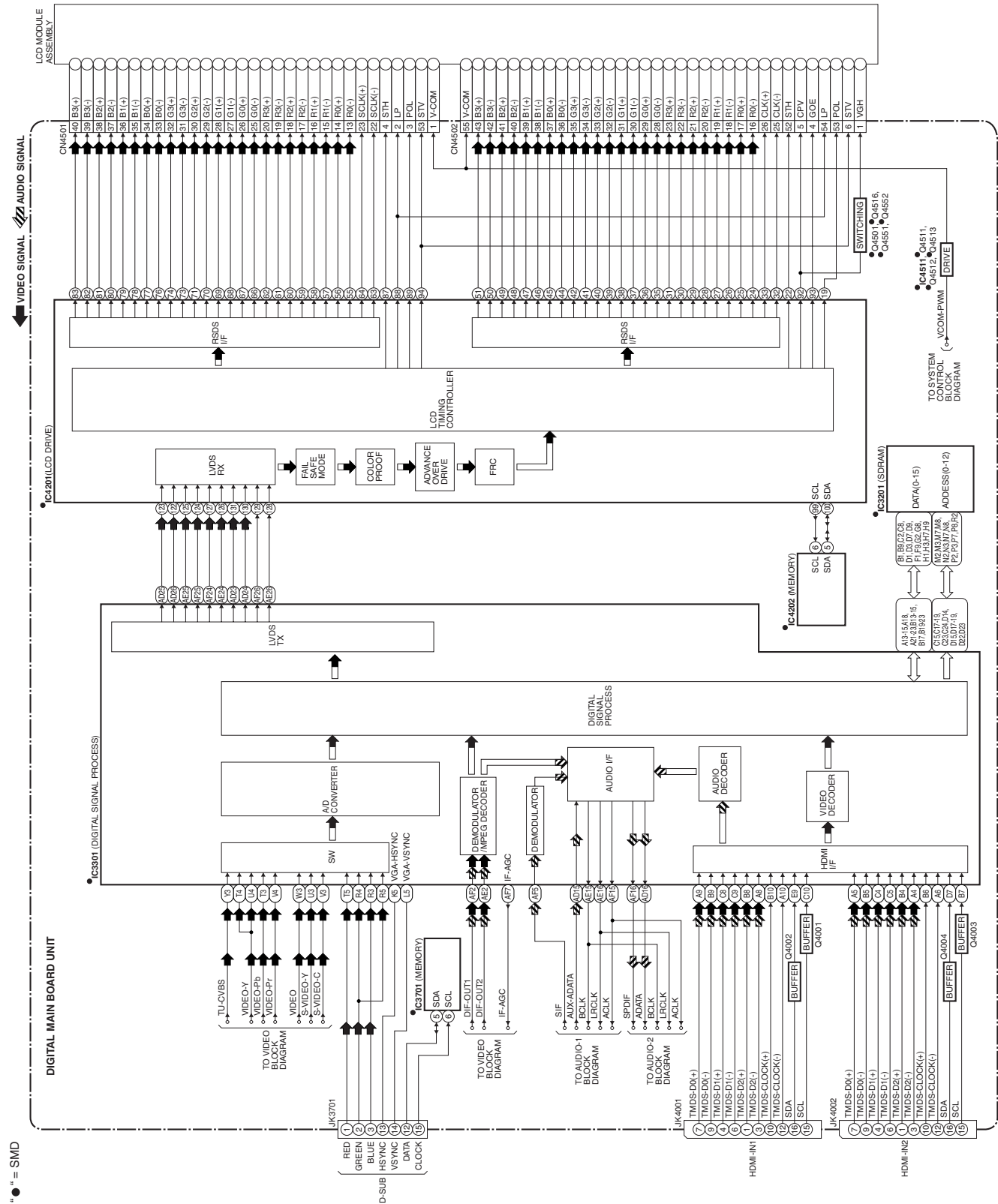


8.4 Audio-2 Block Diagram

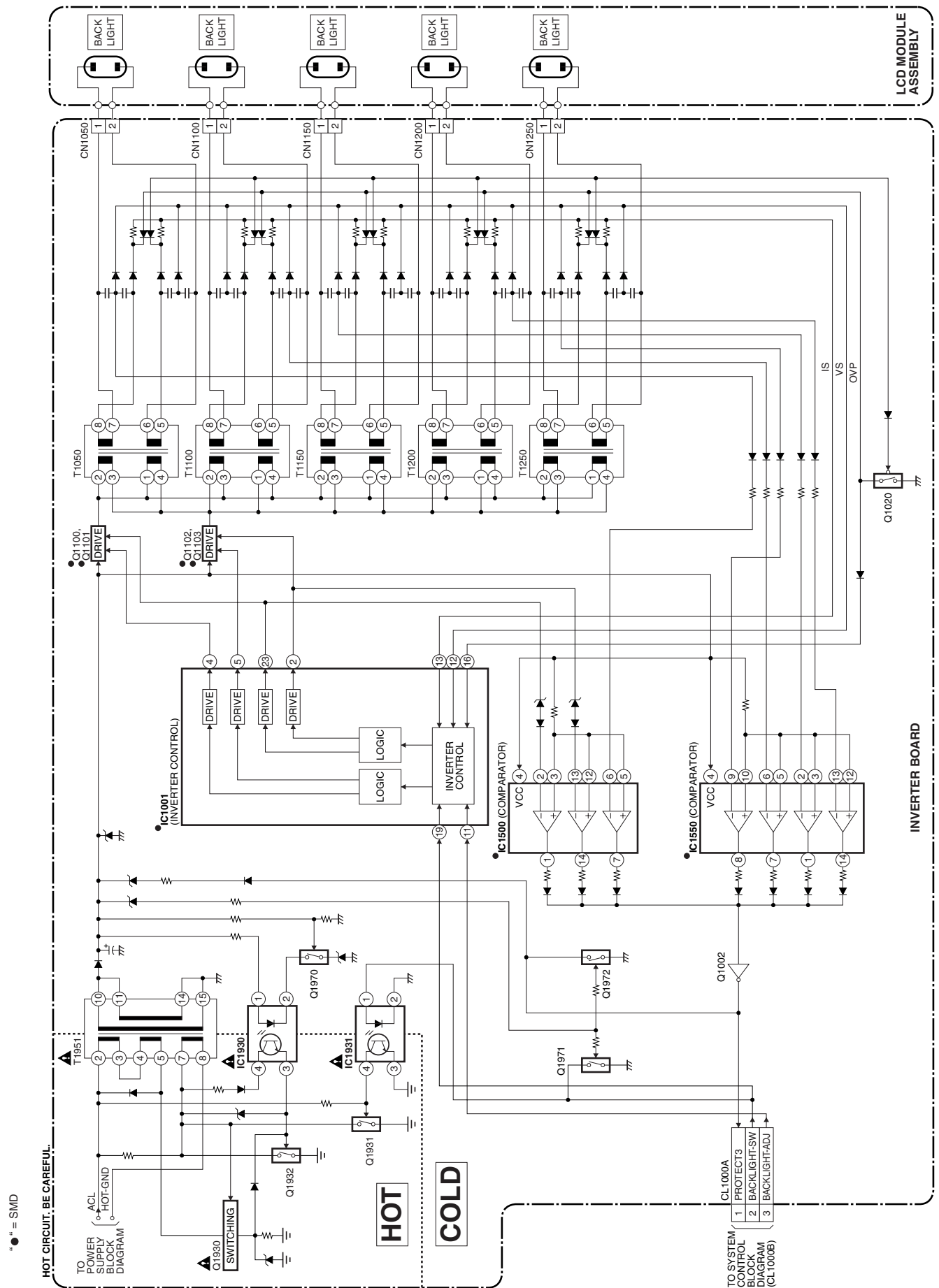
"●" = SMD



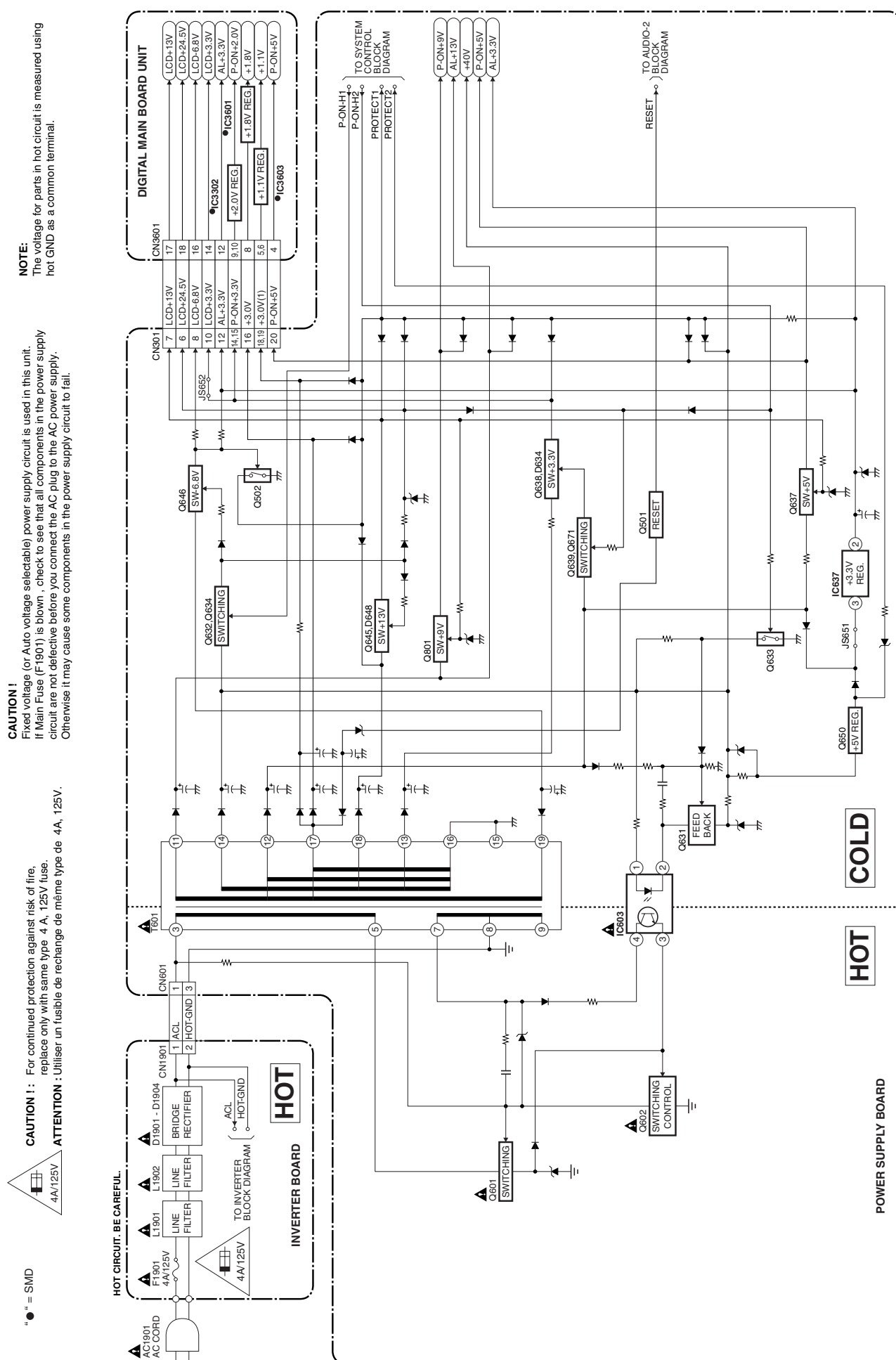
8.5 Digital Signal Process Block Diagram



8.6 Inverter Block Diagram



8.7 Power Supply Block Diagram



9. CIRCUIT DIAGRAMS & PWB LAYOUTS

Standard Notes

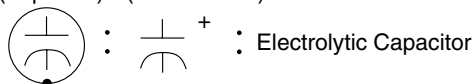
WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "▲" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

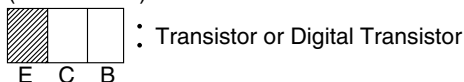
Capacitors and transistors are represented by the following symbols.

< PWB Symbols >

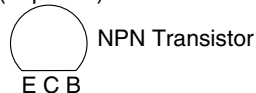
(Top Side) (Bottom Side)



(Bottom Side)



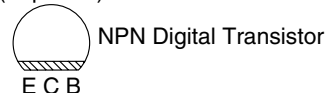
(Top Side)



(Top Side)



(Top Side)

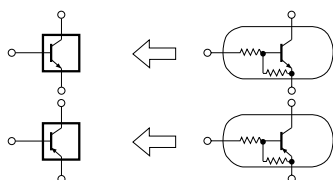


(Top Side)



< Circuit Diagram Symbols >

Digital Transistor

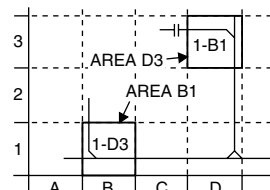


Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
3. How to read converged lines.

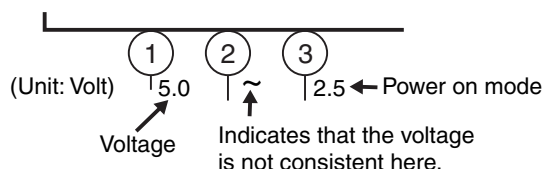
1-D3

Distinction Area
Line Number
(1 to 3 digits)



Examples:

- (1). "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
- (2). "1-B1" means that line number "1" goes to the line number "1" of the area "B1".
4. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
5. Resistor wattages are 1/6W unless otherwise specified.
6. All capacitance values are indicated in μF ($P = 10^{-6} \mu F$).
7. All voltages are DC voltages unless otherwise specified.
8. Voltage indications on the schematics are as shown below.



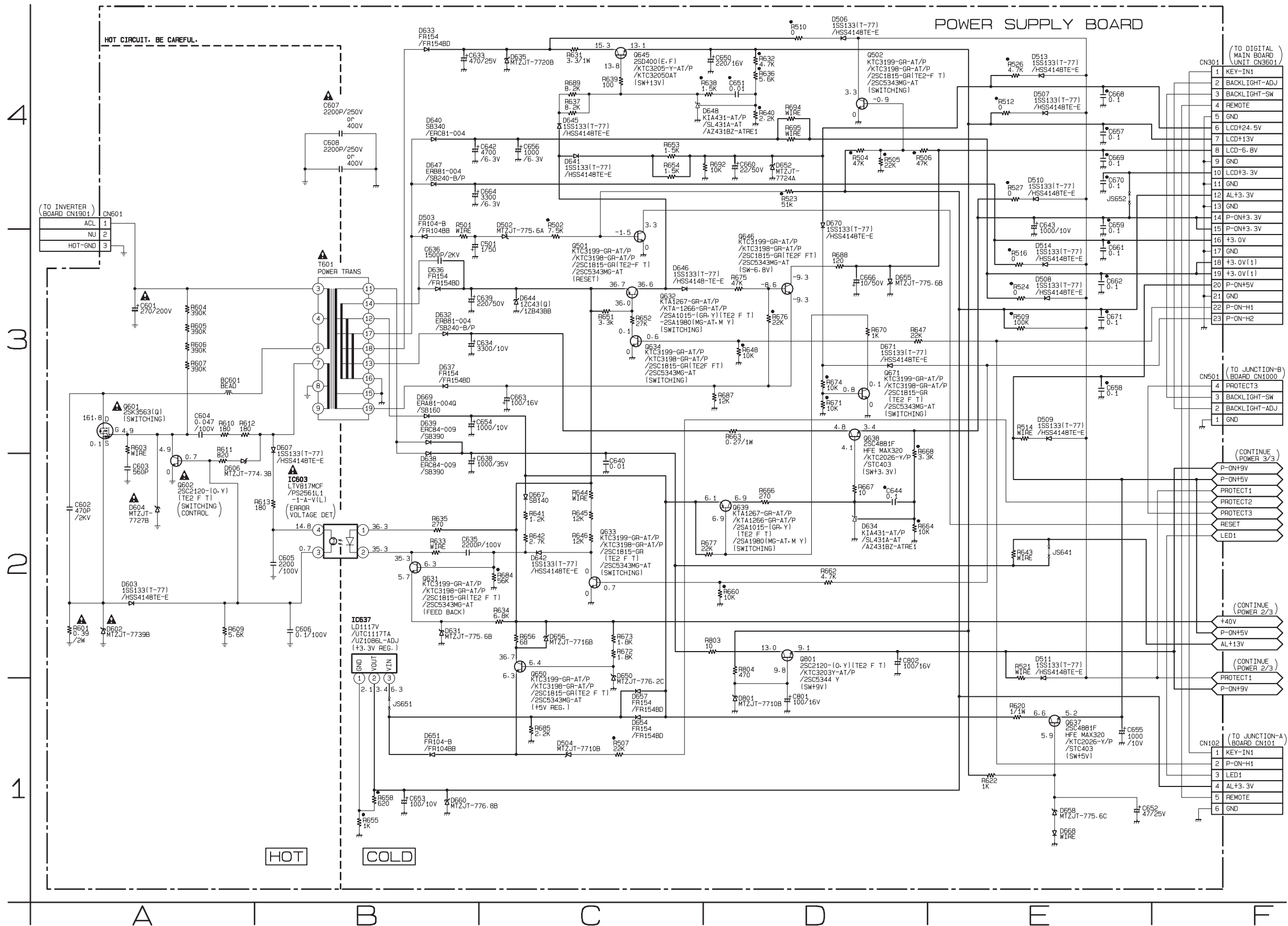
9.1 Power Supply 1/3 Schematic Diagram

Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		DIODES		TRANSISTORS		RESISTORS	
C501	B-3	D507	E-4	Q602	A-2	R639	C-4
C601	A-3	D508	E-3	Q631	B-2	R640	D-4
C602	A-2	D509	E-3	Q632	C-3	R641	C-2
C603	A-2	D510	E-4	Q633	C-2	R642	C-2
C604	A-3	D511	E-2	Q634	C-3	R643	E-2
C605	B-2	D513	E-4	Q637	E-1	R644	C-2
C606	B-2	D514	E-3	Q638	D-3	R645	C-2
C607	B-4	D602	A-2	Q639	D-2	R646	C-2
C608	B-4	D603	A-2	Q645	C-4	R647	D-3
C633	B-4	D604	A-2	Q646	D-3	R648	D-3
C634	B-3	D606	A-2	Q650	C-2	R651	C-3
C635	B-2	D607	B-3	Q671	D-3	R652	C-3
C636	B-3	D631	B-2	Q801	D-2	R653	C-4
C638	B-2	D632	B-3	RESISTORS		R654	C-4
C639	B-3	D633	B-4	R501	B-3	R655	B-1
C640	C-2	D634	D-2	R502	C-3	R656	C-2
C642	B-4	D635	C-4	R504	D-4	R658	B-1
C643	E-4	D636	B-3	R505	D-4	R660	D-2
C644	D-2	D637	B-3	R506	D-4	R662	D-2
C650	D-4	D638	B-2	R507	C-1	R663	D-3
C651	D-4	D639	B-3	R509	E-4	R664	D-2
C652	E-1	D640	B-4	R510	D-4	R666	D-2
C653	B-1	D641	C-4	R512	E-4	R667	D-2
C654	B-3	D642	C-2	R514	E-3	R668	D-3
C655	E-1	D644	C-3	R516	E-3	R670	D-3
C656	C-4	D645	C-4	R521	E-2	R671	D-3
C657	E-4	D646	C-3	R523	D-4	R672	C-2
C658	E-3	D647	B-4	R524	E-3	R673	C-2
C659	E-4	D648	C-4	R526	E-4	R674	D-3
C660	D-4	D650	C-2	R527	E-4	R675	D-3
C661	E-3	D651	B-1	R601	A-2	R676	D-3
C662	E-3	D652	D-4	R603	A-3	R677	D-2
C663	C-3	D654	C-1	R604	A-3	R684	C-2
C664	B-4	D655	D-3	R605	A-3	R685	C-1
C666	D-3	D656	C-2	R606	A-3	R687	D-3
C668	E-4	D657	C-1	R607	A-3	R688	D-3
C669	E-4	D658	E-1	R609	A-2	R689	C-4
C670	E-4	D660	B-1	R610	A-3	R692	D-4
C671	E-3	D667	C-2	R611	A-2	R694	D-4
C801	D-1	D668	E-1	R612	A-3	R695	D-4
C802	D-2	D669	B-3	R613	B-2	R803	D-2
CONNECTORS		D670	D-4	R620	E-1	R804	D-2
CN102	F-1	D671	D-3	R622	E-1	MISCELLANEOUS	
CN301	F-4	D801	D-1	R631	C-4	BC601	A-3
CN501	F-3	ICS		R632	D-4	JS641	E-2
CN601	A-4	IC603	B-2	R633	B-2	JS651	B-1
DIODES		IC637	B-2	R634	C-2	JS652	E-4
D502	C-3	TRANSISTORS		R635	B-2	T601	B-3
D503	B-3	Q501	C-3	R636	D-4		
D504	C-1	Q502	D-4	R637	C-4		
D506	D-4	Q601	A-3	R638	D-4		

NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

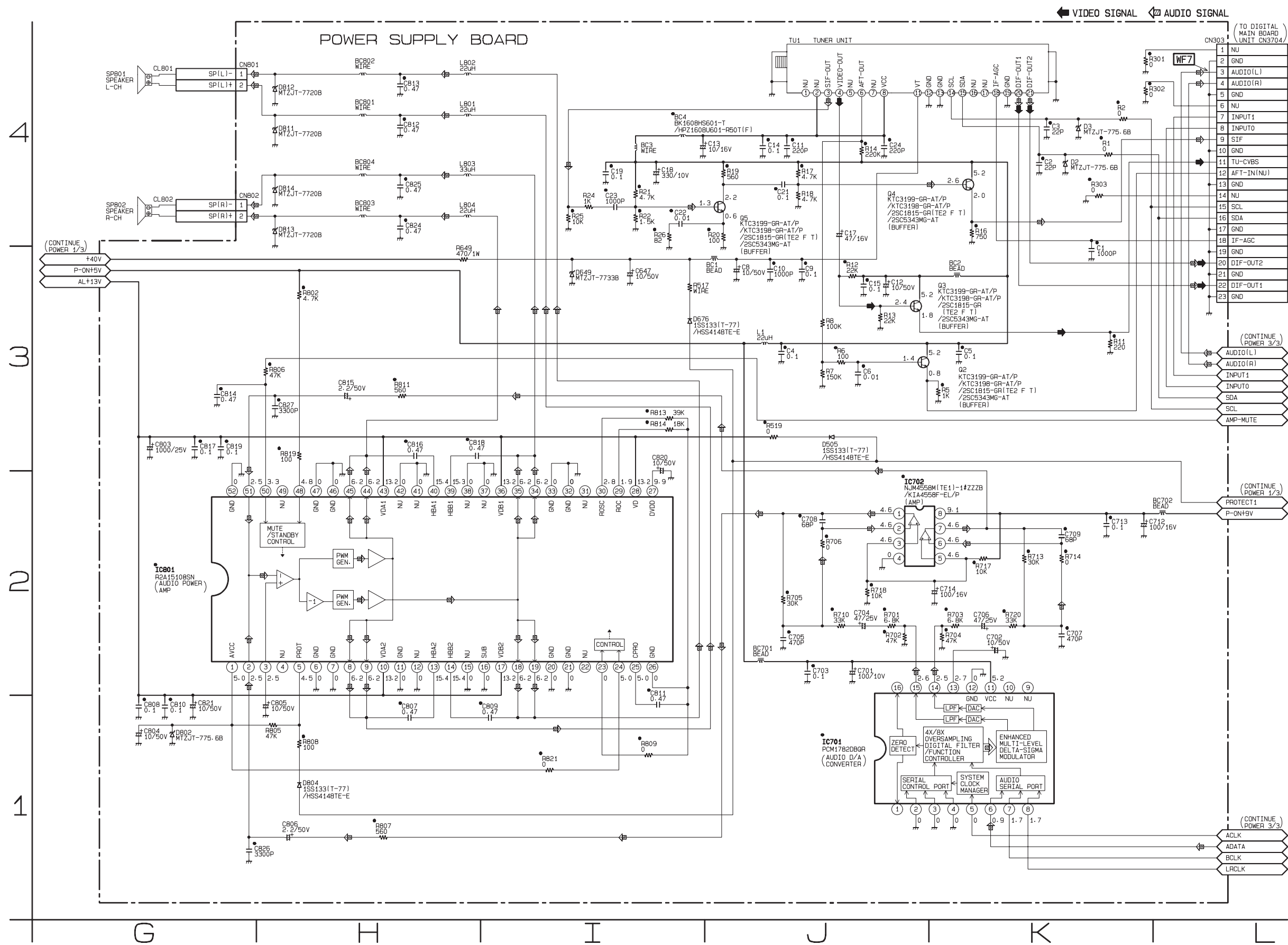


VOLTAGE CHART

Pin No.	Voltage
1	3.3
2	3.2
3	3.2
4	3.3
5	0
6	23.5
7	13.1
8	-6.9
9	0
10	3.4
11	0
12	3.4
13	0
14	3.4
15	3.4
16	3.3
17	0
18	3.4
19	3.4
20	5.2
21	0
22	3.3
23	3.2

9.3 Power Supply 2/3 Schematic Diagram

"•" = SMD



VOLTAGE CHART

CN303	
Pin No.	Voltage
1	0
2	0
3	2.6
4	2.6
5	0
6	0
7	0
8	0
9	2.0
10	0
11	1.7
12	0.8
13	0
14	0
15	4.9
16	4.9
17	0
18	3.3
19	0
20	1.6
21	0
22	1.6
23	0

9.4 Power Supply 2/3 Schematic Diagram

Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		RESISTORS	
C1	K-3	C819	G-3	R17	J-4
C2	K-4	C820	I-3	R18	J-4
C3	K-4	C821	G-1	R19	J-4
C4	J-3	C824	H-4	R20	J-4
C5	K-3	C825	H-4	R21	I-4
C6	J-3	C826	G-1	R22	I-4
C8	J-3	C827	H-3	R24	I-4
C9	J-3	CONNECTORS		R25	I-4
C10	J-3	CN303	L-4	R26	I-4
C11	J-4	CN801	G-4	R301	K-4
C12	J-3	CN802	G-4	R302	K-4
C13	I-4	DIODES		R303	K-4
C14	J-4	D2	K-4	R517	I-3
C15	J-3	D3	K-4	R519	J-3
C17	J-4	D505	J-3	R649	H-3
C18	I-4	D649	I-3	R701	J-2
C19	I-4	D676	I-3	R702	J-2
C21	J-4	D802	G-1	R703	K-2
C22	I-4	D804	H-1	R704	K-2
C23	I-4	D811	H-4	R705	J-2
C24	J-4	D812	H-4	R706	J-2
C647	I-3	D813	H-4	R710	J-2
C701	J-2	D814	H-4	R713	K-2
C702	K-2	ICS		R714	K-2
C703	J-2	IC701	J-1	R717	K-2
C704	J-2	IC702	J-2	R718	J-2
C705	J-2	IC801	G-2	R720	K-2
C706	K-2	COILS		R802	H-3
C707	K-2	L1	J-3	R805	H-1
C708	J-2	L801	H-4	R806	H-3
C709	K-2	L802	H-4	R807	H-1
C712	K-2	L803	H-4	R808	H-1
C713	K-2	L804	H-4	R809	I-1
C714	K-2	TRANSISTORS		R811	H-3
C803	G-3	Q2	J-3	R813	I-3
C804	G-1	Q3	J-3	R814	I-3
C805	H-1	Q4	K-4	R819	H-3
C806	H-1	Q5	J-4	R821	I-1
C807	H-1	RESISTORS		MISCELLANEOUS	
C808	G-1	R1	K-4	BC1	J-3
C809	I-1	R2	K-4	BC2	K-3
C810	G-1	R5	K-3	BC3	I-4
C811	I-1	R6	J-3	BC4	I-4
C812	H-4	R7	J-3	BC701	J-2
C813	H-4	R8	J-3	BC702	L-4
C814	G-3	R11	K-3	BC801	H-4
C815	H-3	R12	J-3	BC802	H-4
C816	H-3	R13	J-3	BC803	H-4
C817	G-3	R14	J-4	BC804	H-4
C818	H-3	R16	K-4	TU1	J-4

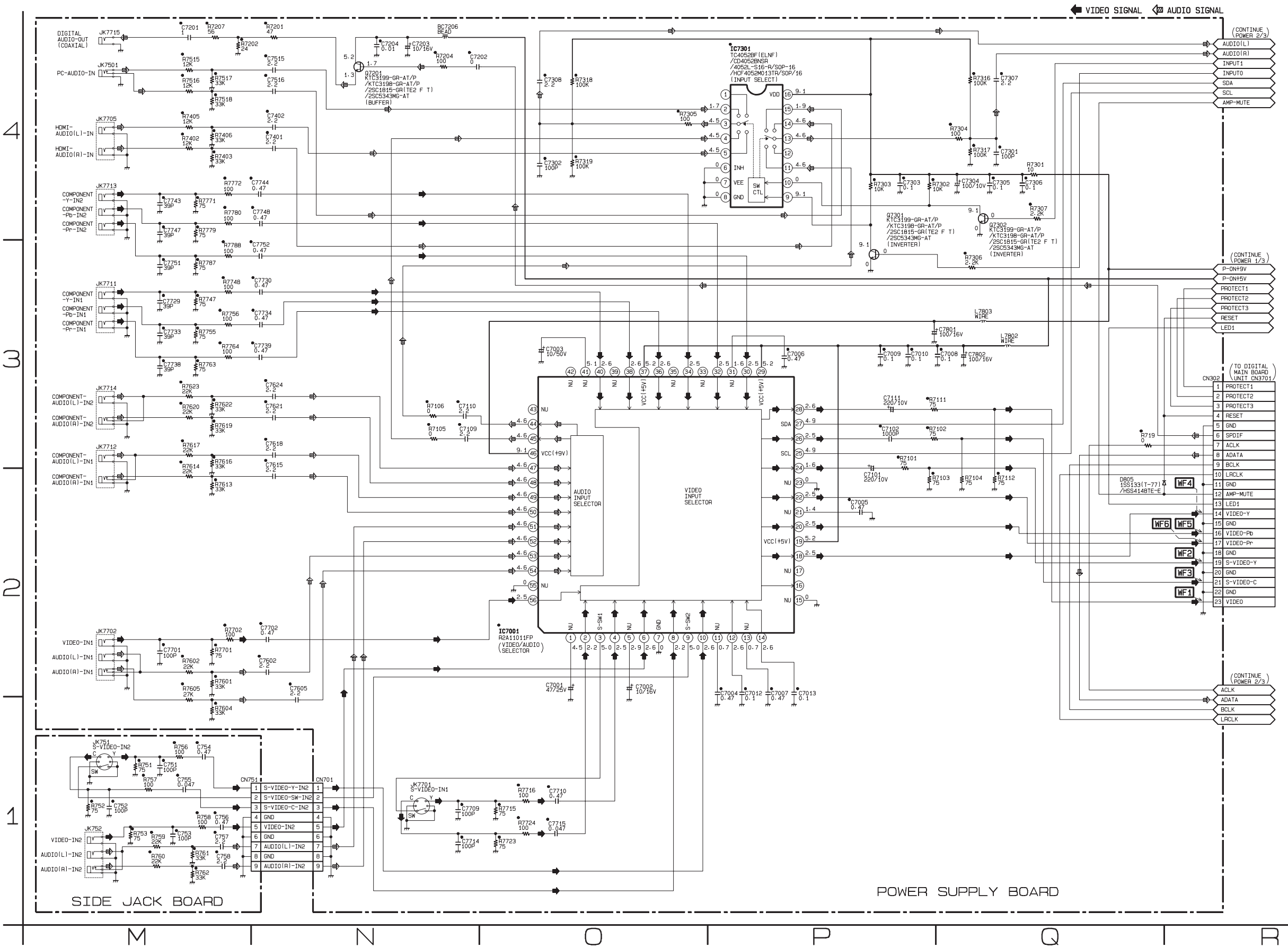
9.5 Power Supply 3/3 Schematic Diagram

Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		RESISTORS	
C7001	O-2	C7739	N-3	R7403	M-4
C7002	O-2	C7743	M-4	R7405	M-4
C7003	O-3	C7744	N-4	R7406	M-4
C7004	P-2	C7747	M-4	R7515	M-4
C7005	P-2	C7748	N-4	R7516	M-4
C7006	P-3	C7751	M-3	R7517	M-4
C7007	P-2	C7752	N-3	R7518	M-4
C7008	Q-3	C7801	P-3	R7601	M-2
C7009	P-3	C7802	Q-3	R7602	M-2
C7010	P-3	CONNECTORS		R7604	M-1
C7012	P-2	CN302	R-3	R7605	M-1
C7013	P-2	CN701	N-1	R7613	M-2
C7101	P-2	DIODE		R7614	M-2
C7102	P-3	D805	Q-2	R7616	M-3
C7109	N-3	ICS		R7617	M-3
C7110	N-3	IC7001	O-2	R7619	M-3
C7111	P-3	IC7301	P-4	R7620	M-3
C7201	M-4	COILS		R7622	M-3
C7202	N-4	L7802	Q-3	R7623	M-3
C7203	N-4	L7803	Q-3	R7701	M-2
C7204	N-4	TRANSISTORS		R7702	M-2
C7301	Q-4	Q7201	N-4	R7715	O-1
C7302	O-4	Q7301	P-3	R7716	O-1
C7303	P-4	Q7302	Q-4	R7723	O-1
C7304	Q-4	RESISTORS		R7724	O-1
C7305	Q-4	R719	Q-3	R7747	M-3
C7306	Q-4	R7101	P-3	R7748	M-3
C7307	Q-4	R7102	P-3	R7755	M-3
C7308	O-4	R7103	P-2	R7756	M-3
C7401	N-4	R7104	Q-2	R7763	M-3
C7402	N-4	R7105	N-3	R7764	M-3
C7515	N-4	R7106	N-3	R7771	M-4
C7516	N-4	R7111	P-3	R7772	M-4
C7602	N-2	R7112	Q-2	R7779	M-4
C7605	N-1	R7201	N-4	R7780	M-4
C7615	N-2	R7202	M-4	R7787	M-3
C7618	N-3	R7204	N-4	R7788	M-3
C7621	N-3	R7207	M-4	MISCELLANEOUS	
C7624	N-3	R7301	Q-4	BC7206	N-4
C7701	M-2	R7302	P-4	JK7501	M-4
C7702	N-2	R7303	P-4	JK7701	N-1
C7709	N-1	R7304	Q-4	JK7702	M-2
C7710	O-1	R7305	O-4	JK7705	M-4
C7714	N-1	R7306	Q-3	JK7711	M-3
C7715	O-1	R7307	Q-4	JK7712	M-3
C7729	M-3	R7316	Q-4	JK7713	M-4
C7730	N-3	R7317	Q-4	JK7714	M-3
C7733	M-3	R7318	O-4	JK7715	M-4
C7734	N-3	R7319	O-4		
C7738	M-3	R7402	M-4		

9.6 Power Supply 3/3 & Side Jack Schematic Diagram

" " = SMD



VOLTAGE CHART

CN302	
Pin No.	Voltage
1	3.4
2	0
3	3.4
4	3.3
5	0
6	1.7
7	1.6
8	1.3
9	1.7
10	1.7
11	0
12	3.4
13	0.6
14	2.5
15	0
16	2.6
17	2.5
18	0
19	0
20	0
21	0
22	0
23	0

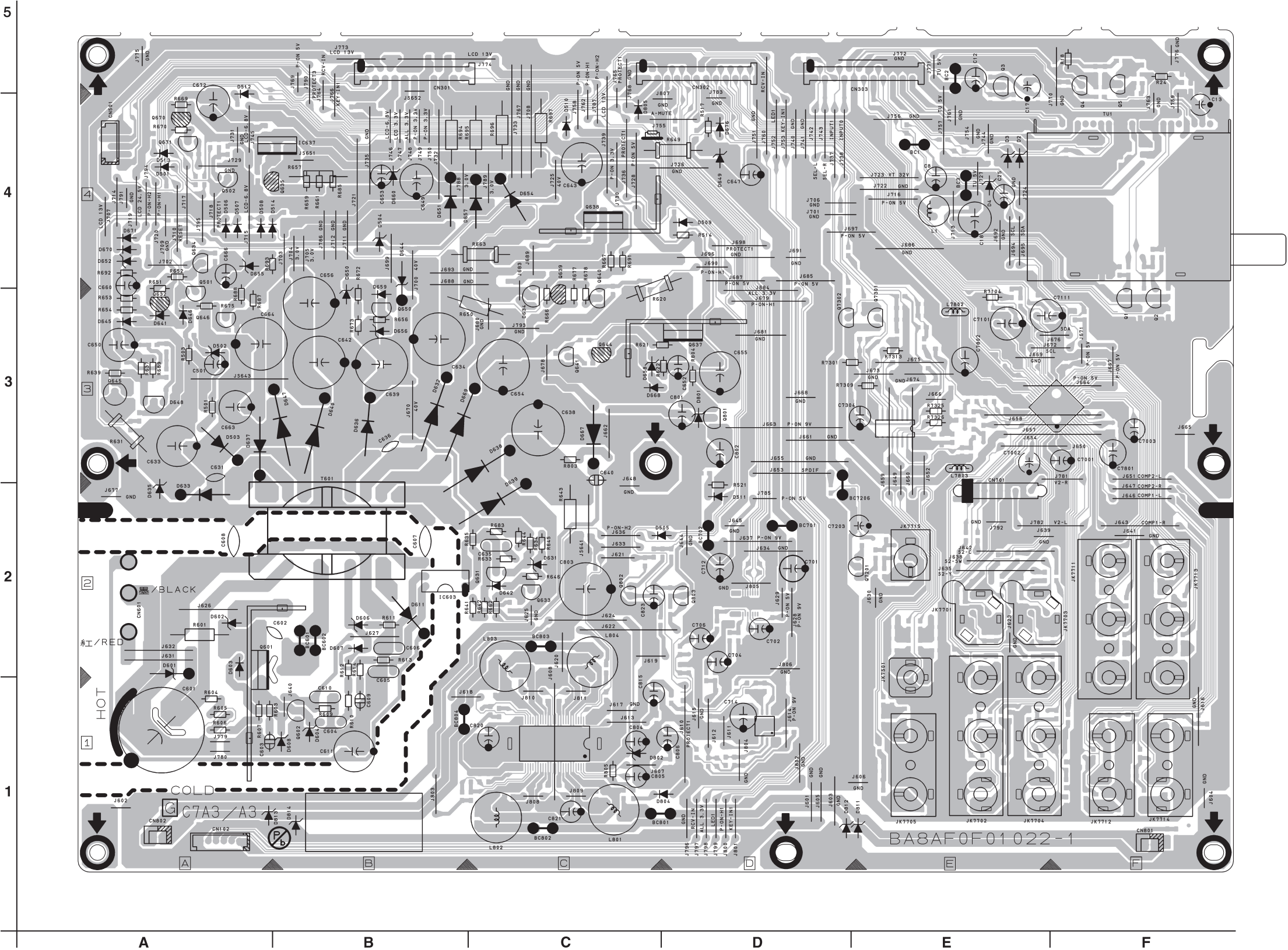
Side Jack Schematic Diagram Parts Location Guide

Ref No.	Position
CAPACITORS	
C751	M-1
C752	M-1
C753	M-1
C754	M-1
C755	M-1
C756	M-1
C757	M-1
C758	M-1
CONNECTOR	
CN751	N-1
RESISTORS	
R751	M-1
R752	M-1
R753	M-1
R756	M-1
R757	M-1
R758	M-1
R759	M-1
R760	M-1
R762	M-1
MISCELLANEOUS	
JK751	M-1
JK752	M-1

9.7 Power Supply Board Layout (Top Side)

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

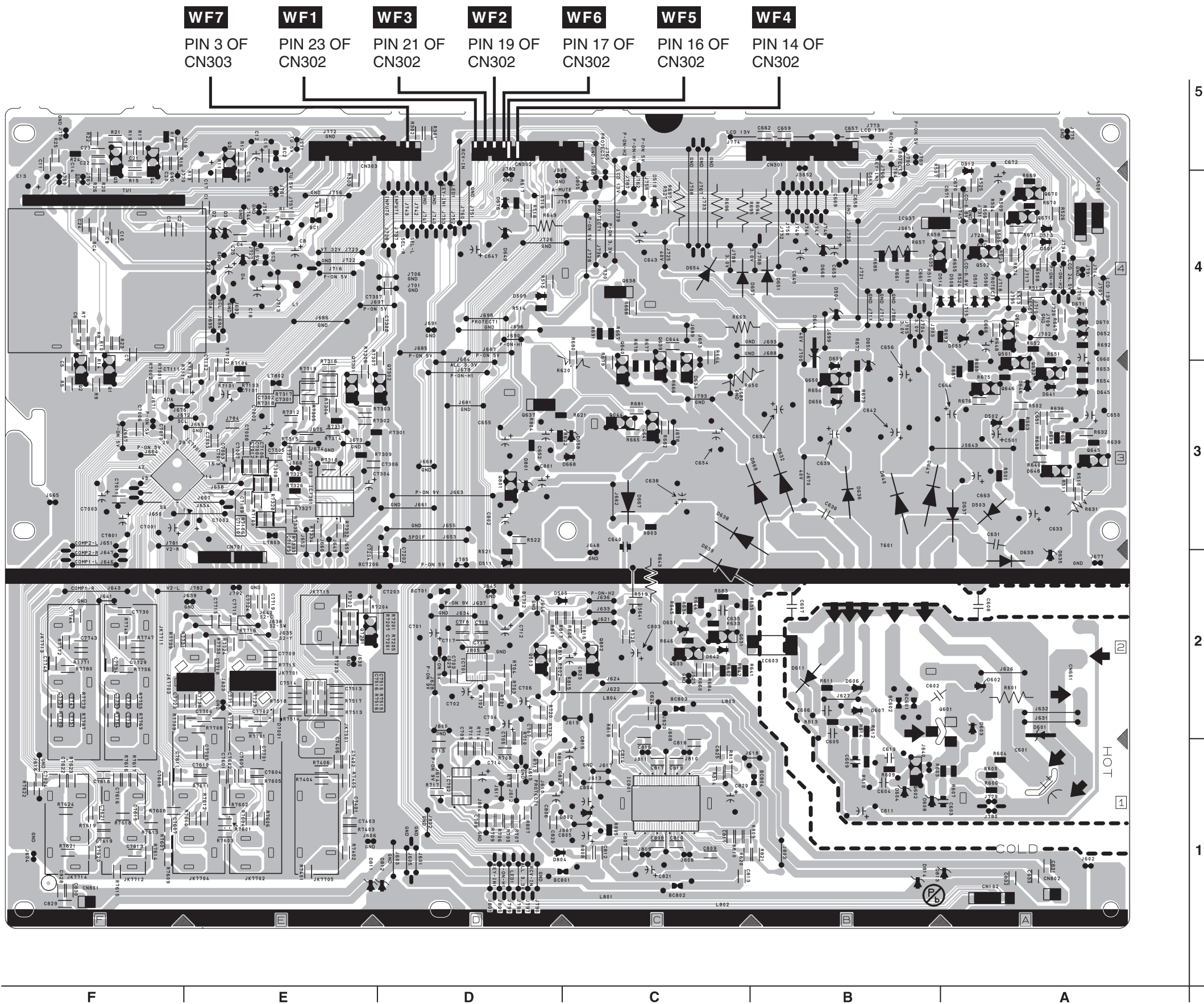
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



9.8 Power Supply Board Layout (Bottom Side)

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

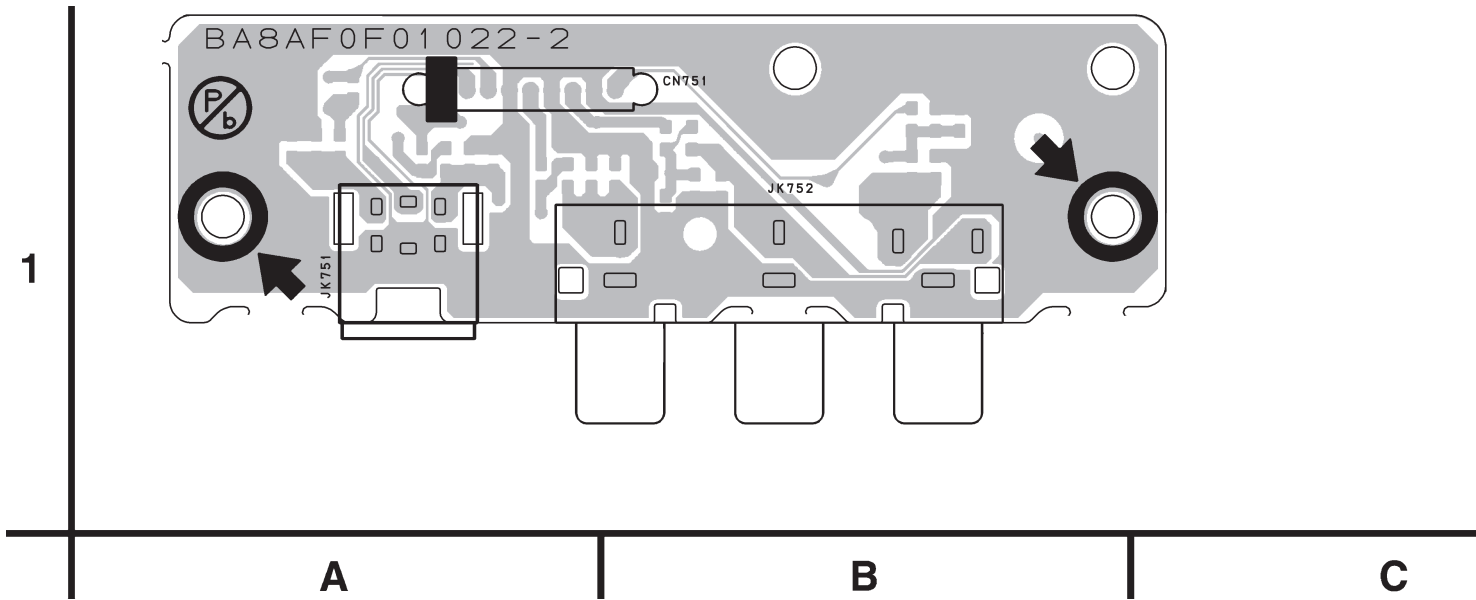
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.



9.9 Power Supply Board Parts Location Guide

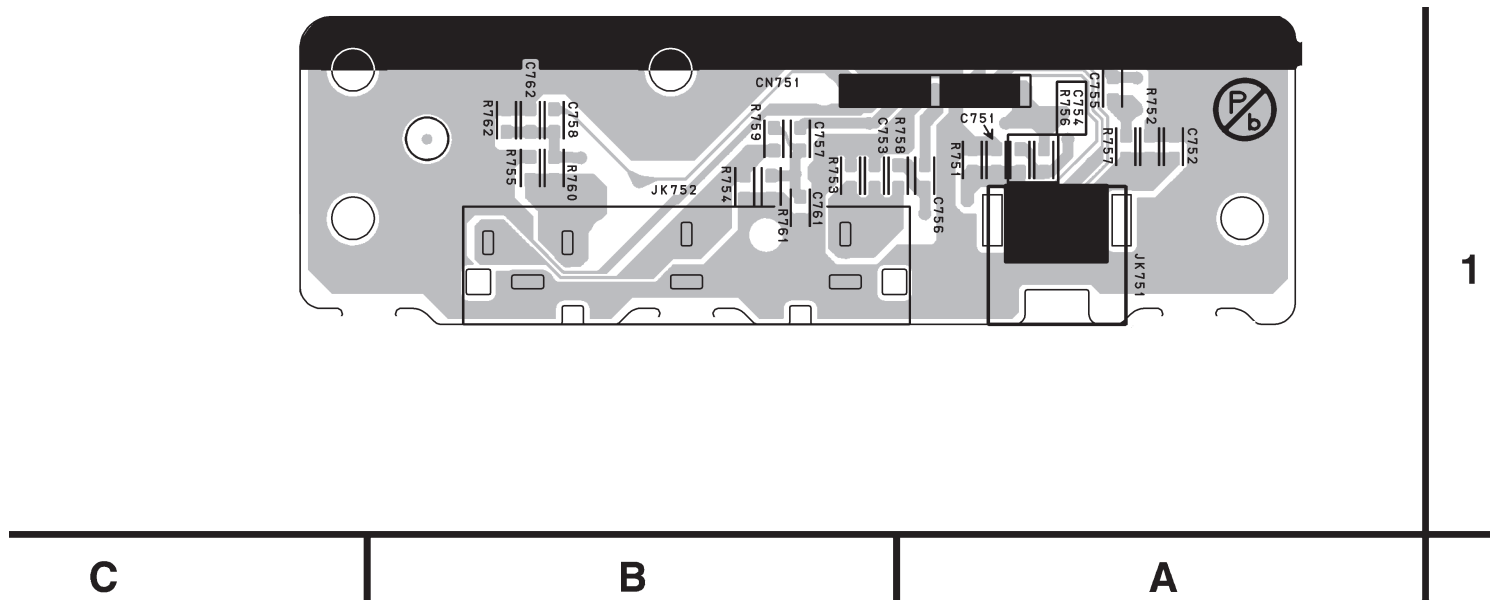
Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CAPACITORS		CONNECTORS		DIODES		RESISTORS		RESISTORS		RESISTORS		RESISTORS	
C1	E-4	C664	A-3	C7101	E-3	CN801	F-1	D801	D-3	R11	E-5	R638	A-3	R802	D-2	R7623	F-1
C2	F-4	C666	A-4	C7102	E-3	CN802	A-1	D802	C-1	R12	E-5	R639	A-3	R803	C-3	R7701	E-2
C3	F-4	C668	B-4	C7109	E-3	DIODES		D804	D-1	R13	E-4	R640	A-3	R804	D-3	R7702	E-2
C4	E-4	C669	B-4	C7110	E-3	D2	E-4	D805	C-4	R14	F-3	R641	C-2	R805	C-1	R7715	E-2
C5	F-3	C670	A-4	C7111	F-3	D3	E-4	D811	E-1	R16	F-5	R642	C-2	R806	C-2	R7716	E-2
C6	F-4	C671	A-4	C7201	D-2	D502	A-3	D812	D-1	R17	F-5	R643	C-2	R807	D-1	R7723	E-2
C8	E-4	C701	D-2	C7202	D-2	D503	A-3	D813	B-1	R18	F-5	R644	C-2	R808	C-1	R7724	E-2
C9	F-4	C702	C-2	C7203	D-2	D504	B-4	D814	B-1	R19	F-5	R645	C-2	R809	B-1	R7747	F-2
C10	F-4	C703	C-2	C7204	E-2	D505	D-2	ICS		R20	F-4	R646	C-2	R811	C-1	R7748	F-2
C11	F-5	C704	D-2	C7301	E-3	D506	A-4	IC603	B-2	R21	F-5	R647	A-4	R813	C-1	R7755	F-2
C12	E-5	C705	C-2	C7302	E-3	D507	A-4	IC637	B-4	R22	F-5	R648	A-4	R814	C-1	R7756	F-2
C13	F-4	C706	C-2	C7303	E-3	D508	A-4	IC701	D-2	R24	F-4	R649	D-4	R819	C-2	R7763	F-2
C14	F-5	C707	C-2	C7304	D-3	D509	D-4	IC702	D-1	R25	F-5	R651	A-4	R821	B-1	R7764	F-2
C15	E-5	C708	D-1	C7305	E-3	D510	C-4	IC801	C-1	R26	F-4	R652	A-4	R7101	E-3	R7771	F-2
C17	E-4	C709	D-2	C7306	D-3	D511	D-2	IC7001	E-3	R301	D-5	R653	A-3	R7102	E-4	R7772	F-2
C18	E-4	C712	A-3	C7307	D-4	D513	A-4	IC7301	E-3	R302	D-5	R654	A-3	R7103	E-3	R7779	F-2
C19	E-4	C713	C-1	C7308	D-4	D514	B-4	COILS		R303	E-4	R655	A-4	R7104	E-3	R7780	F-2
C21	F-5	C714	D-1	C7401	E-1	D602	A-2	L1	E-4	R501	A-3	R656	B-3	R7105	E-3	R7787	F-2
C22	F-5	C801	D-3	C7402	E-1	D603	A-2	L801	C-1	R502	A-3	R658	B-4	R7106	E-3	R7788	F-2
C23	F-5	C802	D-3	C7515	D-2	D604	B-2	L802	C-1	R504	A-4	R660	C-2	R7111	E-3	MISCELLANEOUS	
C24	F-4	C803	C-2	C7516	D-2	D606	B-2	L803	C-2	R505	A-4	R662	C-2	R7112	E-3	BC1	E-4
C501	A-3	C804	C-1	C7602	E-1	D607	B-2	L804	C-2	R506	A-4	R663	C-4	R7201	D-2	BC2	E-5
C601	A-1	C805	C-1	C7605	E-1	D631	C-2	L7802	E-3	R507	B-5	R664	C-4	R7202	E-2	BC3	E-4
C602	B-2	C806	D-1	C7615	F-1	D632	B-3	L7803	E-3	R509	A-4	R666	C-3	R7204	D-2	BC4	F-4
C603	A-1	C807	C-1	C7618	F-1	D633	A-2	TRANSISTORS		R510	A-3	R667	C-4	R7207	D-2	BC601	B-2
C604	B-1	C808	C-1	C7621	F-1	D634	C-3	Q2	F-3	R512	A-4	R668	C-4	R7301	D-3	BC701	D-2
C605	B-1	C809	C-1	C7624	F-1	D635	A-2	Q3	E-5	R514	D-4	R670	A-4	R7302	D-3	BC702	D-2
C606	B-2	C810	C-1	C7701	E-1	D636	B-3	Q4	F-4	R516	B-4	R671	A-4	R7303	D-3	BC801	D-1
C607	B-2	C811	C-1	C7702	E-2	D637	A-3	Q5	F-4	R517	D-4	R672	B-4	R7304	E-3	BC802	C-1
C608	A-2	C812	C-1	C7709	E-2	D638	C-3	Q501	A-4	R519	C-2	R673	B-3	R7305	E-3	BC803	C-2
C633	A-3	C813	C-1	C7710	E-2	D639	C-3	Q502	A-4	R521	D-2	R674	A-4	R7306	E-4	BC804	B-1
C634	B-3	C814	C-1	C7714	E-2	D640	B-3	Q601	A-2	R523	A-4	R675	A-3	R7307	D-4	BC7206	E-2
C635	C-2	C815	C-1	C7715	E-2	D641	A-3	Q602	B-1	R524	A-4	R676	A-3	R7316	E-3	JK7501	E-2
C636	B-3	C816	C-1	C7729	F-2	D642	C-2	Q631	C-2	R526	A-4	R677	C-4	R7317	E-3	JK7701	E-2
C638	C-3	C817	C-1	C7730	F-2	D644	B-4	Q632	A-3	R527	C-4	R684	C-2	R7318	E-3	JK7702	E-1
C639	B-3	C818	C-1	C7733	F-2	D645	A-3	Q633	C-2	R601	A-2	R685	B-4	R7319	E-3	JK7705	E-1
C640	C-3	C819	C-1	C7734	F-2	D646	A-3	Q634	A-4	R603	B-1	R687	A-3	R7402	E-1	JK7711	F-2
C642	B-3	C820	C-1	C7738	F-2	D647	B-3	Q637	D-3	R604	A-1	R688	A-3	R7403	E-1	JK7712	F-1
C643	C-4	C821	C-1	C7739	F-2	D648	A-3	Q638	C-4	R605	A-1	R689	A-3	R7405	E-1	JK7713	F-2
C644	C-4	C824	C-2	C7743	F-2	D649	D-4	Q639	C-4	R606	A-1	R692	A-4	R7406	E-1	JK7714	F-1
C647	D-4	C825	C-1	C7744	F-2	D650	B-4	Q645	A-3	R607	A-1	R694	B-4	R7515	E-2	JK7715	E-2
C650	A-3	C826	D-1	C7747	F-2	D651	B-4	Q646	A-3	R609	B-1	R695	C-4	R7516	D-2	JS641	C-2
C651	A-3	C827	D-1	C7748	F-2	D652	A-4	Q650	B-3	R610	B-1	R701	D-2	R7517	E-2	JS651	B-4
C652	D-3	C7001	F-3	C7751	F-2	D654	D-4	Q671	A-4	R611	B-2	R702	D-2	R7518	E-2	JS652	B-4
C653	B-4	C7002	E-3	C7752	F-2	D655	A-4	Q801	D-3	R612	B-2	R703	D-2	R7601	E-1	T601	B-3
C654	C-3	C7003	F-3	C7801	F-3	D656	B-3	Q7201	E-2	R613	B-2	R704	D-2	R7602	E-1	TU1	F-4
C655	D-3	C7004	E-3	C7802	E-3	D657	B-4	Q7301	E-3	R620	C-3	R705	D-1	R7604	E-1		
C656	B-4	C7005	E-3	CONNECTORS		D658	C-4	Q7302	D-3	R622	C-3	R706	D-1	R7605	E-1		
C657	B-5	C7006	F-3	CN102	A-1	D660	B-4	RESISTORS		R631	A-3	R710	D-2	R7613	F-1		
C658	B-4	C7007	E-3	CN301	B-5	D667	C-3	R1	E-4	R632	A-3	R713	D-1	R7614	F-1		
C659	B-5	C7008	E-3	CN302	D-5	D668	C-3	R2	E-4	R633	A-3	R714	D-2	R7616	F-1		
C660	A-4	C7009	E-3	CN303	E-5	D669	B-3	R5	F-3	R634	C-2	R717	D-1	R7617	F-1		
C661	B-4	C7010	F-3	CN501	A-4	D670	A-4	R6	F-4	R635	C-2	R718	D-2	R7619	F-1		
C662	B-5	C7012	E-3	CN601	A-2	D671	A-4	R7	F-4	R636	A-3	R719	D-4	R7620	F-1		
C663	A-3	C7013	E-3	CN701	E-3	D676	D-4	R8	F-4	R637	A-3	R720	D-2	R7622	F-1		

9.10 Side Jack Board Layout (Top Side)



Side Jack Board	
Parts Location Guide	
Ref No.	Position
CAPACITORS	
C751	A-1
C752	A-1
C753	B-1
C754	A-1
C755	A-1
C756	A-1
C757	B-1
C758	B-1
CONNECTOR	
CN751	B-1
RESISTORS	
R751	A-1
R752	A-1
R753	B-1
R756	A-1
R757	A-1
R758	B-1
R759	B-1
R760	B-1
R761	B-1
R762	B-1
MISCELLANEOUS	
JK751	A-1
JK752	B-1

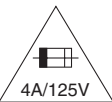
Side Jack Board Layout (Bottom Side)



9.11 Inverter & Junction-B Schematic Diagram

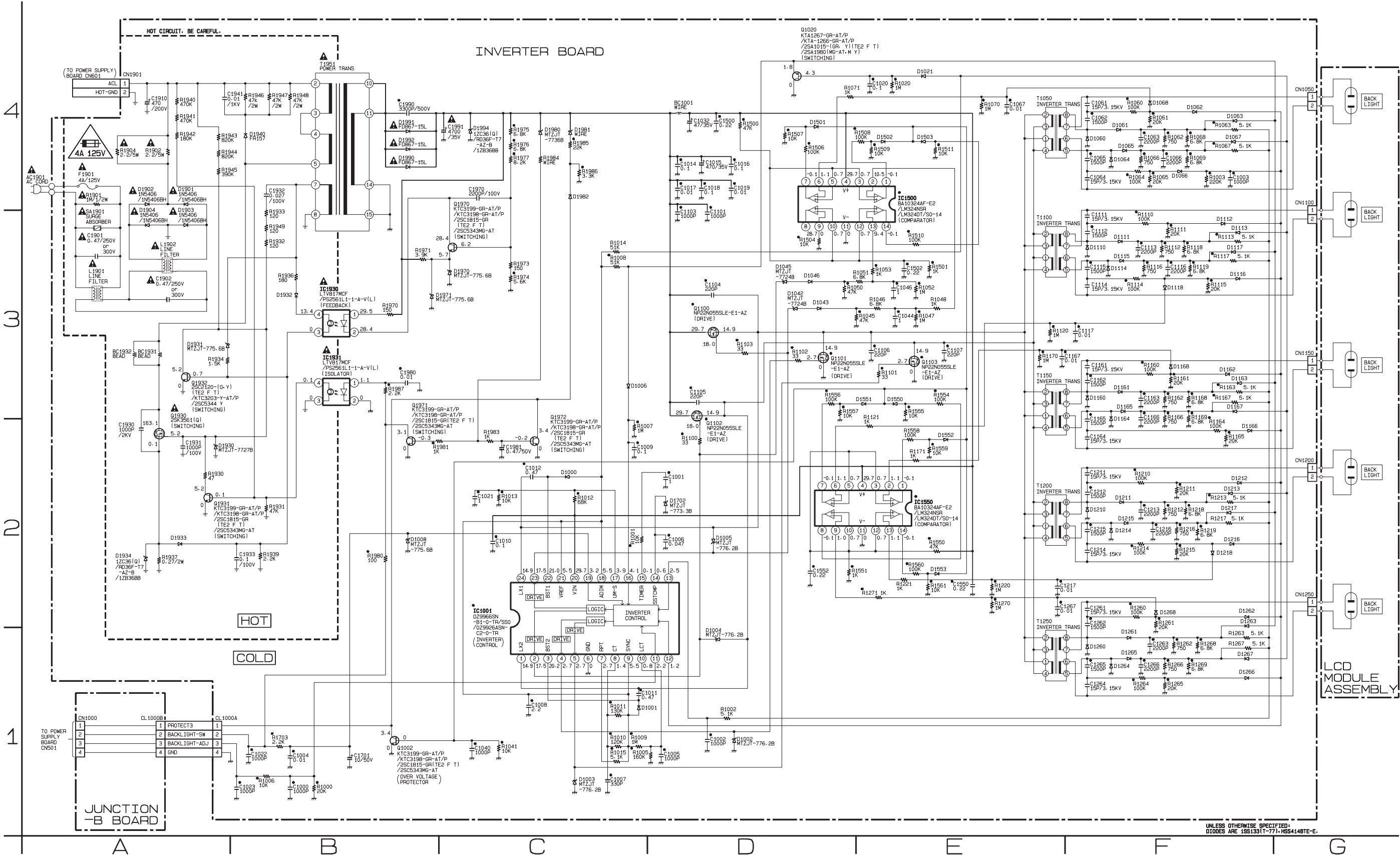
" " = SMD

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1901) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



CAUTION ! : For continued protection against risk of fire,
replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using
hot GND as a common terminal.



UNLESS OTHERWISE SPECIFIED:
DIODES ARE 1SS133T-771, HSS4148TE-E.

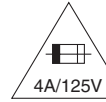
9.12 Inverter Schematic Diagram Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CONNECTORS		DIODES		ICS		RESISTORS		RESISTORS		RESISTORS	
C1000	B-1	C1117	F-3	CN1250	G-2	D1213	F-2	IC1930	B-3	R1062	F-4	R1218	F-2	R1939	B-2
C1001	D-2	C1161	F-3	CN1901	A-4	D1214	F-2	IC1931	B-3	R1063	F-4	R1219	F-2	R1940	A-4
C1002	D-1	C1162	F-3	DIODES		D1215	F-2	COILS		R1064	F-4	R1220	E-2	R1941	A-4
C1003	F-4	C1163	F-3	D1000	C-2	D1216	F-2	L1901	A-3	R1065	F-4	R1221	E-2	R1942	A-4
C1004	B-1	C1164	F-2	D1001	C-1	D1217	F-2	L1902	A-3	R1066	F-4	R1260	F-2	R1943	A-4
C1005	D-1	C1165	F-2	D1002	D-1	D1218	F-2	TRANSISTORS		R1067	F-4	R1261	F-2	R1944	A-4
C1006	D-2	C1166	F-3	D1003	C-1	D1260	F-1	Q1002	B-1	R1068	F-4	R1262	F-1	R1945	A-4
C1007	C-1	C1167	E-3	D1004	D-1	D1261	F-1	Q1020	D-4	R1069	F-4	R1263	F-1	R1946	B-4
C1008	C-1	C1211	F-2	D1005	D-2	D1262	F-2	Q1100	D-3	R1070	E-4	R1264	F-1	R1947	B-4
C1009	C-2	C1212	F-2	D1006	C-3	D1263	F-2	Q1101	D-3	R1071	D-4	R1265	F-1	R1948	B-4
C1010	C-2	C1213	F-2	D1008	B-2	D1264	F-1	Q1102	D-3	R1100	D-2	R1266	F-1	R1949	B-3
C1011	C-1	C1214	F-2	D1021	E-4	D1265	F-1	Q1103	E-3	R1101	E-3	R1267	F-1	R1970	B-3
C1012	C-2	C1215	F-2	D1042	D-3	D1266	F-1	Q1930	A-2	R1102	D-3	R1268	F-1	R1971	B-3
C1014	D-4	C1216	F-2	D1043	D-3	D1267	F-1	Q1931	A-2	R1103	D-3	R1269	F-1	R1973	C-3
C1015	D-4	C1217	E-2	D1045	D-3	D1268	F-2	Q1932	A-3	R1110	F-3	R1270	E-2	R1974	C-3
C1016	D-4	C1261	F-2	D1046	D-3	D1501	D-4	Q1970	C-3	R1111	F-3	R1271	E-2	R1975	C-4
C1017	D-4	C1262	F-2	D1060	F-4	D1502	E-4	Q1971	B-2	R1112	F-3	R1500	D-4	R1976	C-4
C1018	D-4	C1263	F-1	D1061	F-4	D1503	E-4	Q1972	C-2	R1113	F-3	R1501	E-3	R1977	C-4
C1019	D-4	C1264	F-1	D1062	F-4	D1550	E-3	RESISTORS		R1114	F-3	R1504	D-3	R1980	B-2
C1020	E-4	C1265	F-1	D1063	F-4	D1551	E-3	R1000	B-1	R1115	F-3	R1506	D-4	R1981	C-2
C1021	C-2	C1266	F-1	D1064	F-4	D1552	E-2	R1001	C-2	R1116	F-3	R1507	D-4	R1983	C-2
C1022	B-1	C1267	E-2	D1065	F-4	D1553	E-2	R1002	D-1	R1117	F-3	R1508	E-4	R1984	C-4
C1023	B-1	C1500	D-4	D1066	F-4	D1702	D-2	R1003	F-4	R1118	F-3	R1509	E-4	R1985	C-4
C1032	D-4	C1502	E-3	D1067	F-4	D1901	A-4	R1005	D-1	R1119	F-3	R1510	E-3	R1986	C-4
C1040	C-1	C1550	E-2	D1068	F-4	D1902	A-4	R1006	B-1	R1120	E-3	R1511	E-4	R1987	B-3
C1044	E-3	C1552	D-2	D1110	F-3	D1903	A-3	R1007	C-2	R1121	E-2	R1550	E-2	MISCELLANEOUS	
C1046	E-3	C1701	B-1	D1111	F-3	D1904	A-3	R1008	C-3	R1160	F-3	R1551	D-2	AC1901	A-4
C1061	F-4	C1901	A-3	D1112	F-3	D1930	A-2	R1009	C-1	R1161	F-3	R1554	E-3	BC1001	D-4
C1062	F-4	C1902	A-3	D1113	F-3	D1931	A-3	R1010	C-1	R1162	F-3	R1555	E-3	BC1931	A-3
C1063	F-4	C1910	A-4	D1114	F-3	D1932	B-3	R1011	C-1	R1163	F-3	R1556	D-3	BC1932	A-3
C1064	F-4	C1930	A-2	D1115	F-3	D1933	A-2	R1012	C-2	R1164	F-2	R1557	D-3	F1901	A-4
C1065	F-4	C1931	A-2	D1116	F-3	D1934	A-2	R1013	C-2	R1165	F-2	R1558	E-2	SA1901	A-3
C1066	F-4	C1932	B-4	D1117	F-3	D1940	B-4	R1014	C-3	R1166	F-3	R1559	E-2	T1050	E-4
C1067	E-4	C1933	B-2	D1118	F-3	D1970	C-3	R1015	C-1	R1167	F-3	R1560	E-2	T1100	E-3
C1101	D-3	C1941	A-4	D1160	F-3	D1971	B-3	R1020	E-4	R1168	F-3	R1561	E-2	T1150	E-3
C1103	D-3	C1970	C-4	D1161	F-3	D1980	C-4	R1041	C-1	R1169	F-3	R1703	B-1	T1200	E-2
C1104	D-3	C1980	B-3	D1162	F-3	D1981	C-4	R1045	E-3	R1170	E-3	R1901	A-4	T1250	E-1
C1105	D-3	C1981	C-2	D1163	F-3	D1982	C-4	R1046	E-3	R1171	E-2	R1902	A-4	T1951	B-4
C1106	E-3	C1990	B-4	D1164	F-3	D1990	B-4	R1047	E-3	R1210	F-2	R1904	A-4		
C1107	E-3	C1991	C-4	D1165	F-3	D1991	B-4	R1048	E-3	R1211	F-2	R1930	A-2		
C1111	F-3	CONNECTORS		D1166	F-2	D1992	B-4	R1050	D-3	R1212	F-2	R1931	B-2		
C1112	F-3	CL1000A	A-1	D1167	F-3	D1994	C-4	R1051	E-3	R1213	F-2	R1932	B-3		
C1113	F-3	CN1050	G-4	D1168	F-3	ICS		R1052	E-3	R1214	F-2	R1933	B-3		
C1114	F-3	CN1100	G-4	D1210	F-2	IC1001	C-2	R1053	E-3	R1215	F-2	R1934	A-3		
C1115	F-3	CN1150	G-3	D1211	F-2	IC1500	E-4	R1060	F-4	R1216	F-2	R1936	B-3		
C1116	F-3	CN1200	G-2	D1212	F-2	IC1550	E-2	R1061	F-4	R1217	F-2	R1937	A-2		

9.13 Inverter Board Layout (Top Side)

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1901) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.



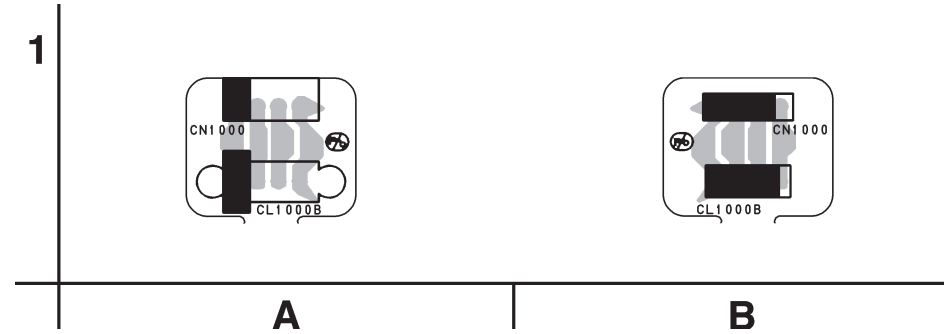
CAUTION ! : For continued protection against risk of fire,
replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used.
Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

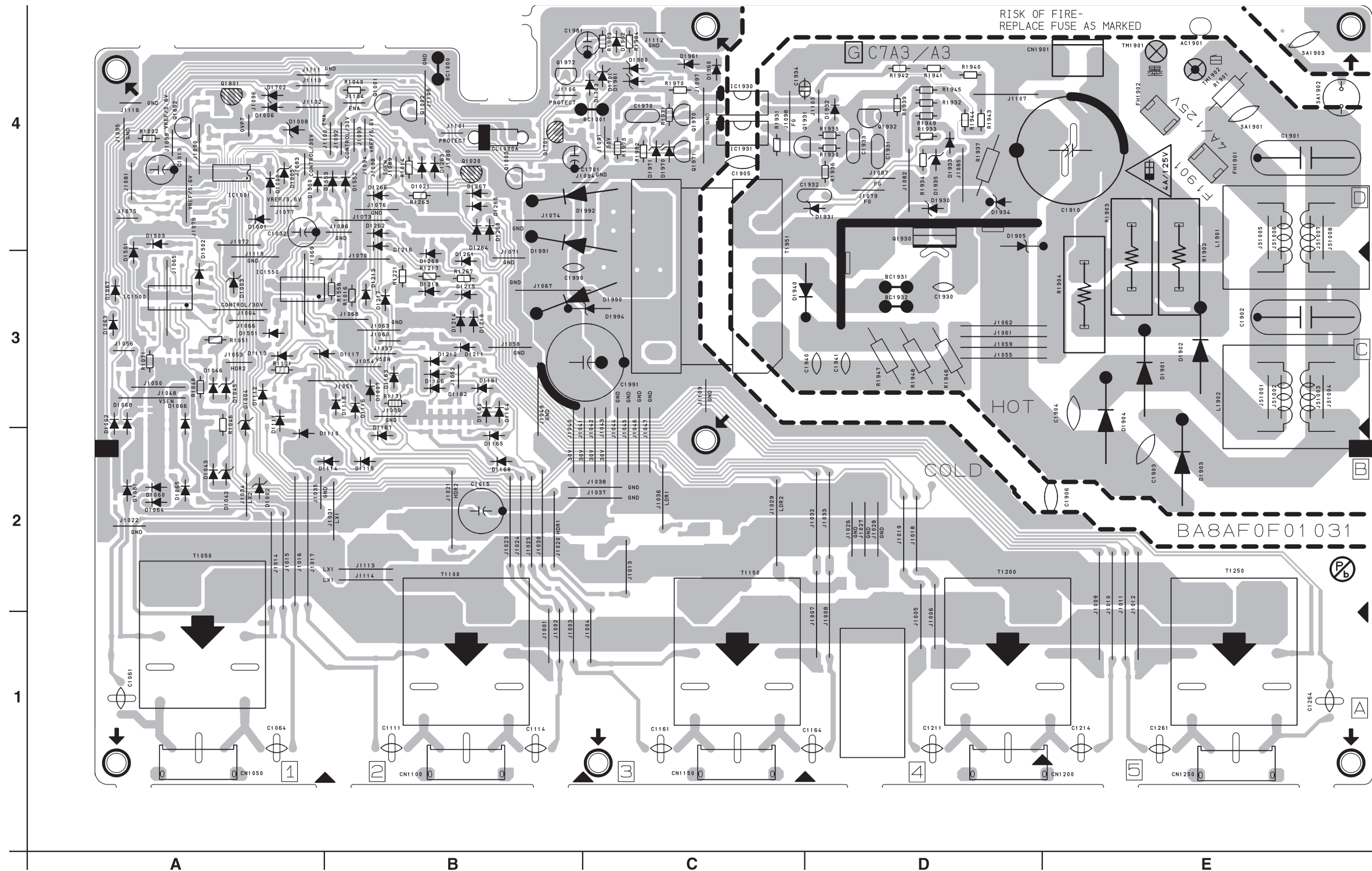
NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Junction-B Board Layout (Top & Bottom Side)



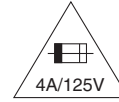
BA8AF0F01031



9.14 Inverter Board Layout (Bottom Side)

CAUTION !

Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1901) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

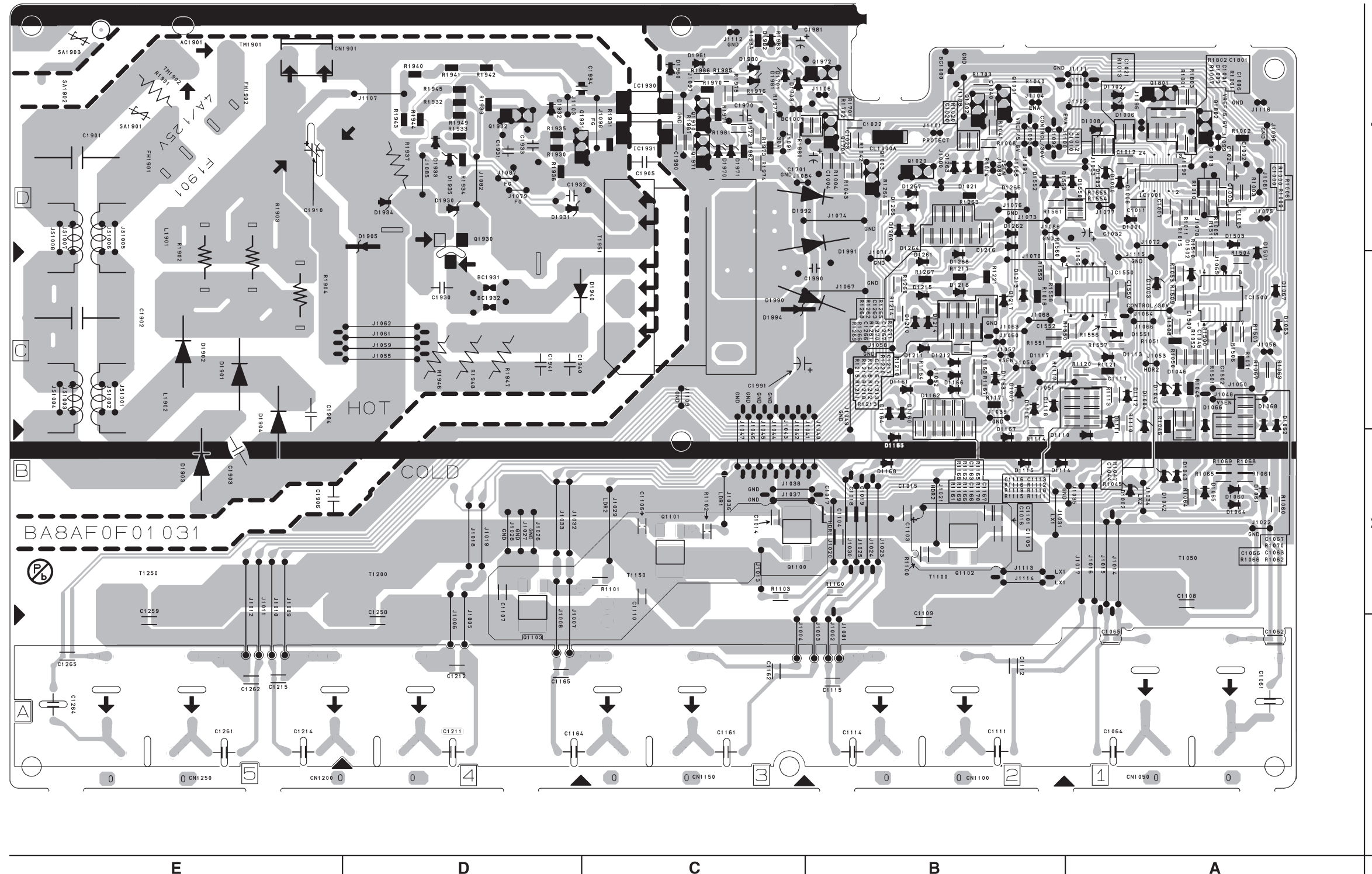


CAUTION ! : For continued protection against risk of fire,
replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used.
Also, in order to have the ability to increase the input slowly, when troubleshooting this type power supply circuit, a variable isolation transformer is required.

NOTE:

The voltage for parts in hot circuit is measured using hot GND as a common terminal.

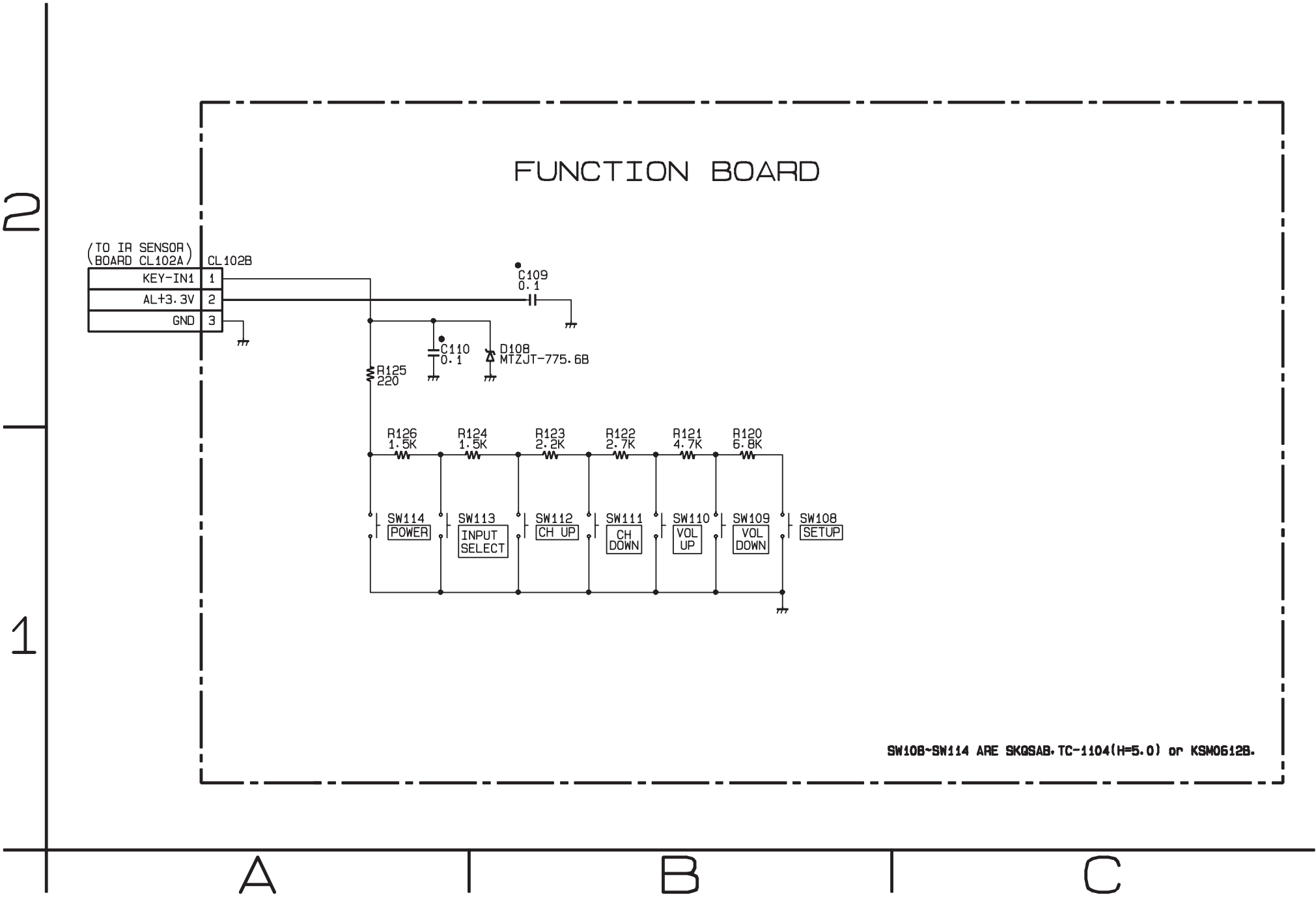


9.15 Inverter Board Parts Location Guide

Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position	Ref No.	Position
CAPACITORS		CAPACITORS		CONNECTORS		DIODES		ICS		RESISTORS		RESISTORS		RESISTORS	
C1000	A-4	C1117	A-3	CN1250	E-1	D1213	B-3	IC1930	C-4	R1062	A-2	R1218	B-3	R1939	D-4
C1001	A-4	C1161	C-1	CN1901	E-4	D1214	B-3	IC1931	C-4	R1063	A-3	R1219	B-3	R1940	D-4
C1002	A-4	C1162	D-1	DIODES		D1215	B-3	COILS		R1064	A-2	R1220	B-3	R1941	D-4
C1003	A-4	C1163	B-2	D1000	A-4	D1216	B-3	L1901	E-4	R1065	A-2	R1221	B-3	R1942	D-4
C1004	B-4	C1164	D-1	D1001	A-4	D1217	B-3	L1902	E-3	R1066	A-2	R1260	B-3	R1943	D-4
C1005	A-4	C1165	D-1	D1002	A-2	D1218	B-3	TRANSISTORS		R1067	A-3	R1261	B-3	R1944	D-4
C1006	A-4	C1166	B-2	D1003	A-3	D1260	B-4	Q1002	B-4	R1068	A-2	R1262	B-3	R1945	D-4
C1007	A-4	C1167	B-2	D1004	A-3	D1261	B-3	Q1020	B-4	R1069	A-2	R1263	B-4	R1946	D-3
C1008	A-4	C1211	D-4	D1005	A-4	D1262	B-4	Q1100	C-2	R1070	A-2	R1264	B-4	R1947	D-3
C1009	A-4	C1212	D-1	D1006	A-4	D1263	B-4	Q1101	C-2	R1071	A-3	R1265	B-3	R1948	D-3
C1010	A-4	C1213	B-3	D1008	A-4	D1264	B-4	Q1102	B-2	R1100	B-2	R1266	B-3	R1949	D-4
C1011	A-4	C1214	E-1	D1021	B-4	D1265	B-4	Q1103	D-1	R1101	C-2	R1267	B-3	R1970	C-4
C1012	A-4	C1215	E-1	D1042	A-2	D1266	B-4	Q1930	D-4	R1102	C-2	R1268	B-3	R1971	C-4
C1014	C-2	C1216	B-3	D1043	A-2	D1267	B-4	Q1931	C-4	R1103	C-2	R1269	B-3	R1973	C-4
C1015	B-2	C1217	B-3	D1045	A-3	D1268	B-3	Q1932	D-4	R1110	A-3	R1270	B-3	R1974	C-4
C1016	B-2	C1261	E-1	D1046	A-3	D1501	A-3	Q1970	C-4	R1111	B-2	R1271	B-3	R1975	C-4
C1017	B-2	C1262	E-1	D1060	A-2	D1502	A-4	Q1971	C-4	R1112	B-2	R1500	A-3	R1976	C-4
C1018	B-2	C1263	B-3	D1061	A-2	D1503	A-4	Q1972	B-4	R1113	A-3	R1501	A-3	R1977	C-4
C1019	B-2	C1264	E-1	D1062	A-3	D1550	A-4	RESISTORS		R1114	B-2	R1504	A-3	R1980	C-4
C1020	B-4	C1265	E-1	D1063	A-3	D1551	A-3	R1000	A-4	R1115	B-2	R1506	A-3	R1981	C-4
C1021	A-4	C1266	B-3	D1064	A-2	D1552	B-4	R1001	A-4	R1116	B-2	R1507	A-3	R1983	C-4
C1022	B-4	C1267	B-3	D1065	A-2	D1553	B-4	R1002	A-4	R1117	B-3	R1508	A-3	R1984	C-4
C1023	B-4	C1500	A-3	D1066	A-3	D1702	A-4	R1003	A-4	R1118	B-2	R1509	A-3	R1985	C-4
C1032	A-4	C1502	A-3	D1067	A-3	D1901	E-3	R1005	A-4	R1119	B-2	R1510	A-4	R1986	C-4
C1040	B-4	C1550	A-3	D1068	A-3	D1902	E-3	R1006	A-4	R1120	A-3	R1511	A-4	R1987	C-4
C1044	A-2	C1552	B-3	D1110	B-2	D1903	E-2	R1007	A-4	R1121	A-3	R1550	A-3	MISCELLANEOUS	
C1046	A-3	C1701	C-4	D1111	A-3	D1904	E-3	R1008	B-4	R1160	B-2	R1551	B-3	AC1901	E-4
C1061	A-1	C1901	E-4	D1112	A-3	D1930	D-4	R1009	A-4	R1161	B-2	R1554	A-4	BC1001	C-4
C1062	A-1	C1902	E-3	D1113	A-3	D1931	D-4	R1010	A-4	R1162	B-2	R1555	A-4	BC1931	D-3
C1063	A-2	C1910	E-4	D1114	B-2	D1932	D-4	R1011	A-4	R1163	B-3	R1556	A-3	BC1932	D-3
C1064	A-1	C1930	D-3	D1115	B-2	D1933	D-4	R1012	A-4	R1164	B-3	R1557	A-3	F1901	E-4
C1065	A-1	C1931	D-4	D1116	B-3	D1934	D-4	R1013	A-4	R1165	B-2	R1558	B-3	SA1901	E-4
C1066	A-2	C1932	D-4	D1117	B-3	D1940	C-3	R1014	B-4	R1166	B-2	R1559	B-3	T1050	A-2
C1067	A-2	C1933	D-4	D1118	B-3	D1970	C-4	R1015	A-4	R1167	B-3	R1560	B-4	T1100	B-2
C1101	B-2	C1941	D-3	D1160	B-3	D1971	C-4	R1020	B-4	R1168	B-2	R1561	B-4	T1150	C-2
C1103	B-2	C1970	C-4	D1161	B-3	D1980	C-4	R1041	B-4	R1169	B-2	R1703	B-4	T1200	D-2
C1104	B-2	C1980	C-4	D1162	B-3	D1981	C-4	R1045	A-2	R1170	B-2	R1901	E-4	T1250	E-2
C1105	B-2	C1981	B-4	D1163	B-3	D1982	C-4	R1046	A-3	R1171	B-3	R1902	E-3	T1951	C-4
C1106	C-2	C1990	B-3	D1164	B-3	D1990	C-3	R1047	A-2	R1210	B-3	R1904	E-3		
C1107	D-2	C1991	C-3	D1165	B-2	D1991	B-3	R1048	A-3	R1211	B-3	R1930	D-4		
C1111	B-1	CONNECTORS		D1166	B-3	D1992	C-4	R1050	A-3	R1212	B-3	R1931	C-4		
C1112	B-1	CL1000A	B-4	D1167	B-3	D1994	C-3	R1051	A-3	R1213	B-3	R1932	D-4		
C1113	B-2	CN1050	A-1	D1168	B-2	ICS		R1052	A-3	R1214	B-3	R1933	D-4		
C1114	B-1	CN1100	B-1	D1210	B-3	IC1001	A-4	R1053	A-3	R1215	B-3	R1934	D-4		
C1115	B-1	CN1150	C-1	D1211	B-3	IC1500	A-3	R1060	A-2	R1216	B-3	R1936	D-4		
C1116	B-2	CN1200	E-1	D1212	B-3	IC1550	A-3	R1061	A-2	R1217	B-3	R1937	D-4		

9.16 Function Schematic Diagram

● = SMD

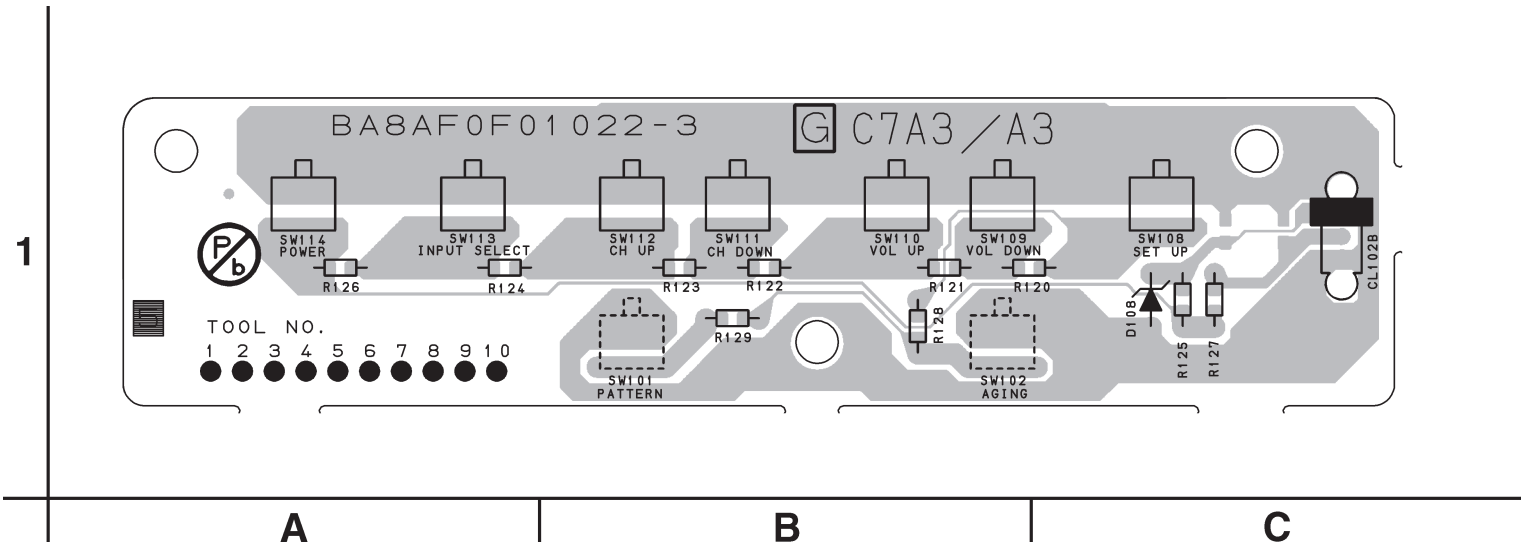


Function Schematic Diagram

Parts Location Guid

Ref No.	Position
CAPACITORS	
C109	B-2
C110	A-2
CONNECTOR	
CL102B	A-2
DIODE	
D108	B-2
RESISTORS	
R120	B-1
R121	B-1
R122	B-1
R123	B-1
R124	B-1
R125	A-2
R126	A-1
SWITCHES	
SW108	B-1
SW109	B-1
SW110	B-1
SW111	B-1
SW112	B-1
SW113	A-1
SW114	A-1

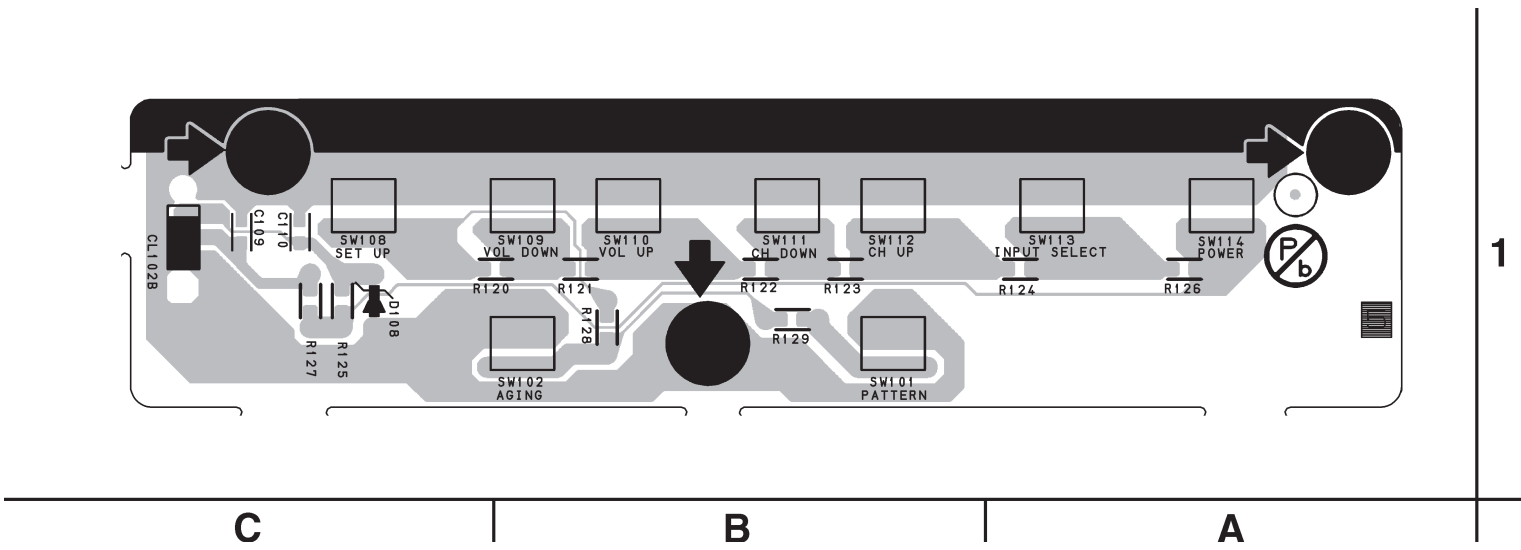
9.17 Function Board Layout (Top Side)



Function Board
Parts Location Guide

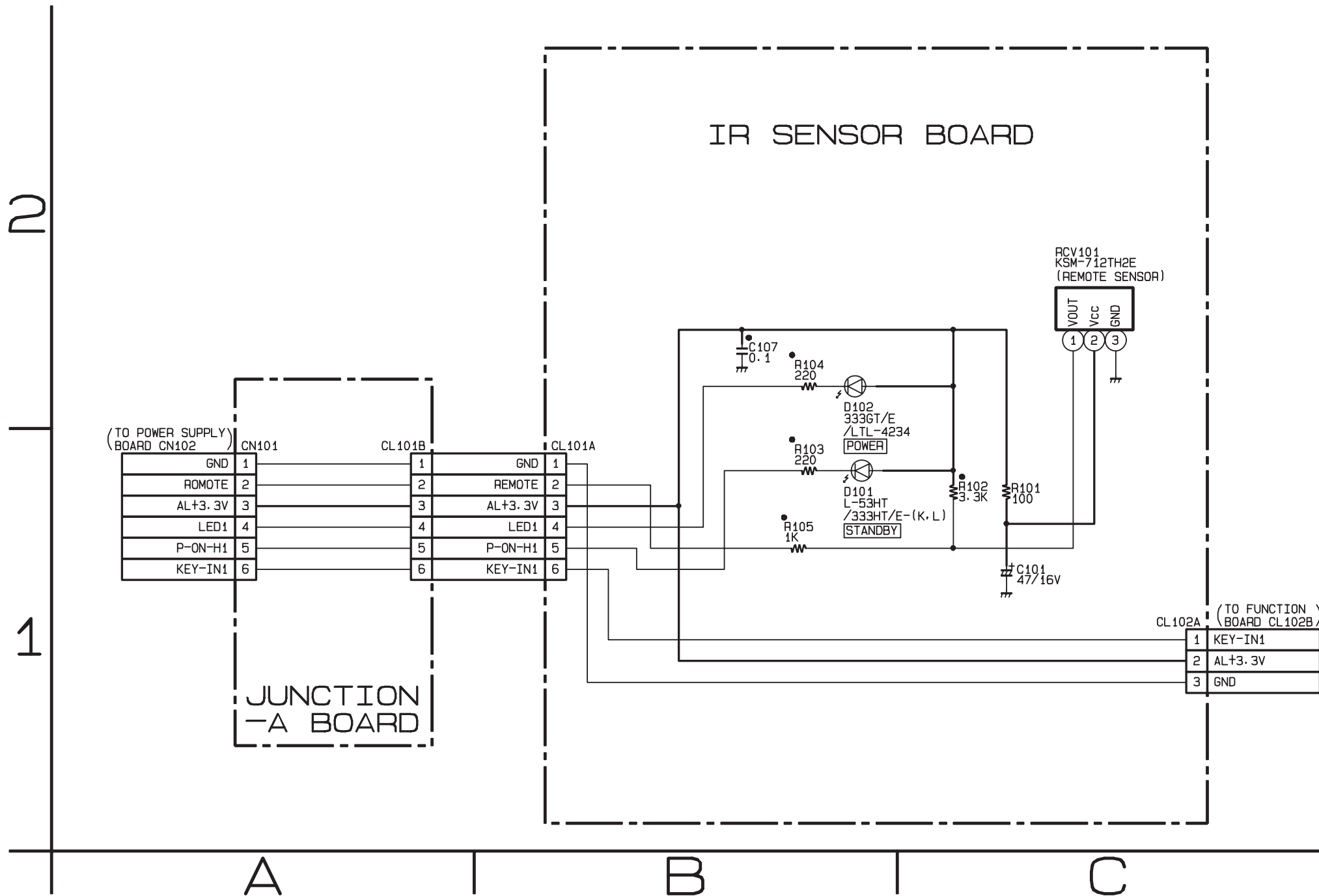
Ref No.	Position
CAPACITORS	
C109	C-1
C110	C-1
CONNECTOR	
CL102B	C-1
DIODE	
D108	C-1
RESISTORS	
R120	B-1
R121	B-1
R122	B-1
R123	B-1
R124	A-1
R125	C-1
R126	A-1
SWITCHES	
SW108	C-1
SW109	B-1
SW110	B-1
SW111	B-1
SW112	B-1
SW113	A-1
SW114	A-1

Function Board Layout (Bottom Side)



9.18 IR Sensor & Junction-A Schematic Diagram

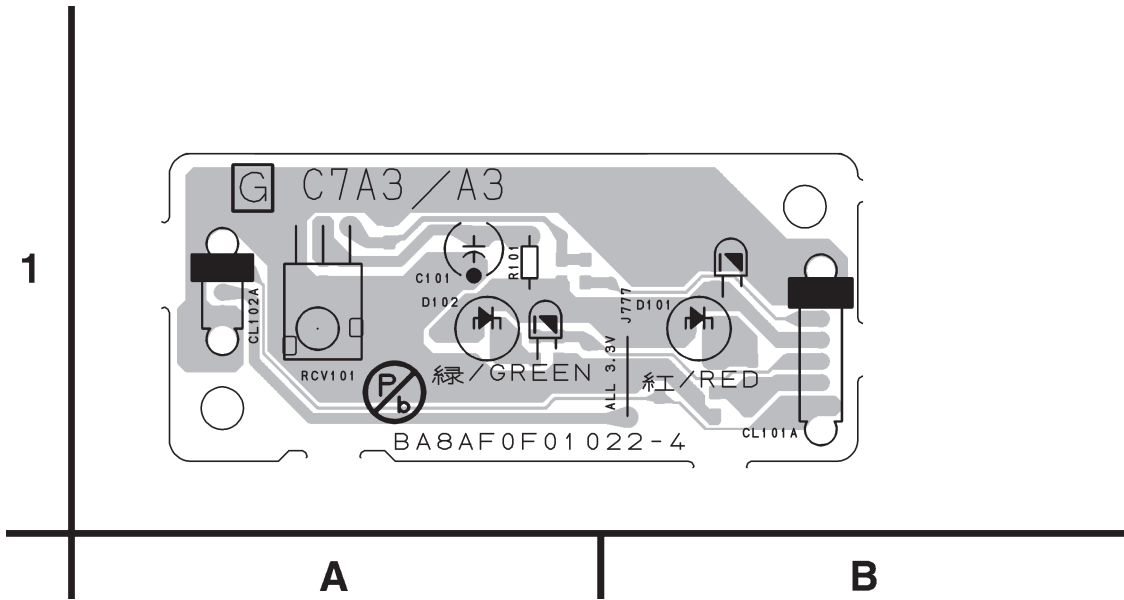
"●" = SMD



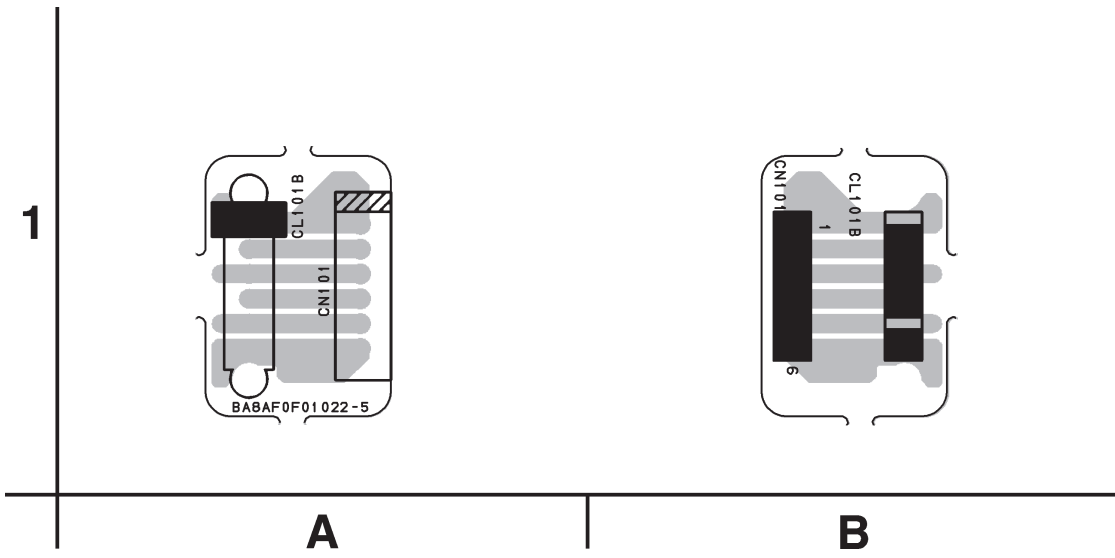
IR Sensor Schematic Diagram

Parts Location Guid	
Ref No.	Position
CAPACITORS	
C101	C-1
C107	B-2
CONNECTORS	
CL101A	B-1
CL102A	C-1
DIODES	
D101	B-1
D102	B-2
RESISTORS	
R101	C-1
R102	C-1
R103	B-1
R104	B-2
R105	B-1
MISCELLANEOUS	
RCV101	C-2

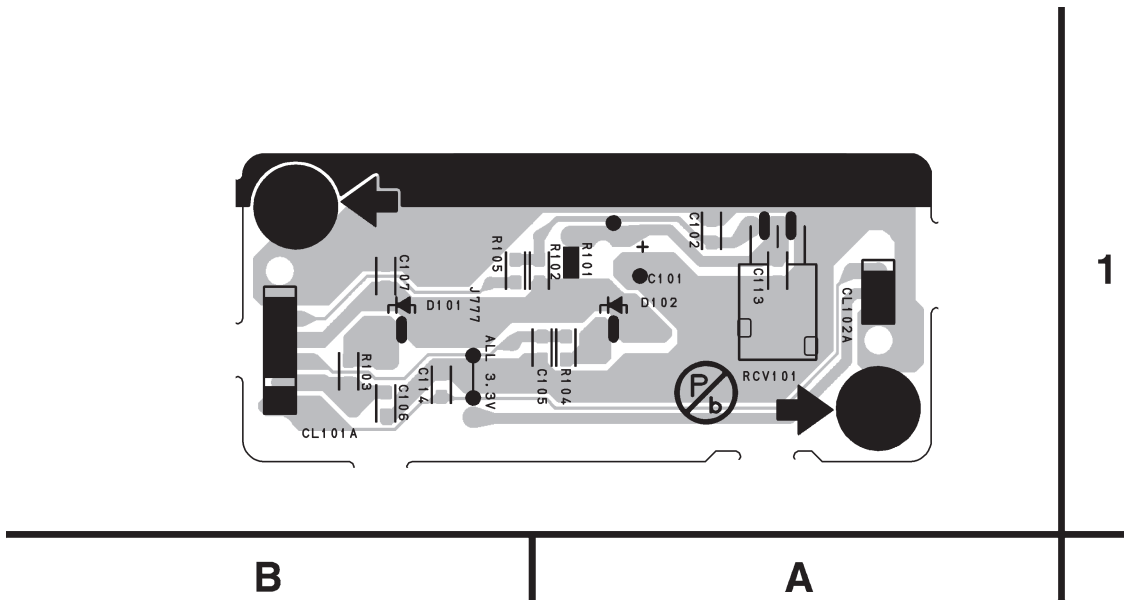
9.19 IR Sensor Board Layout (Top Side)



Junction-A Board Layout (Top & Bottom Side)



IR Sensor Board Layout (Bottom Side)



BA8AF0F01022-5

IR Sensor Board
Parts Location Guide

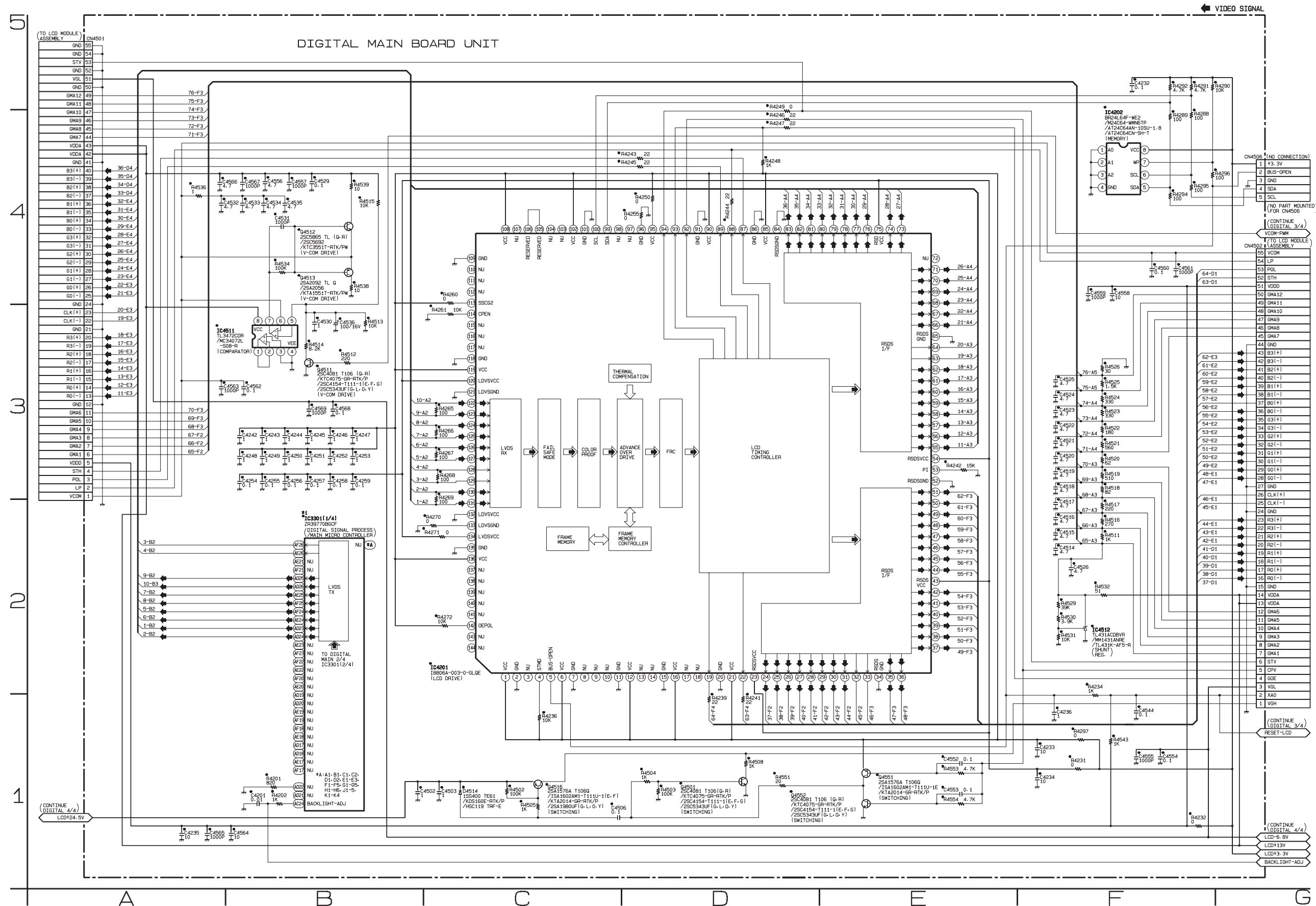
Ref No.	Position
CAPACITORS	
C101	A-1
C107	B-1
CONNECTORS	
CL101A	B-1
CL102A	A-1
DIODES	
D101	B-1
D102	A-1
RESISTORS	
R101	A-1
R102	A-1
R103	B-1
R104	A-1
R105	B-1
MISCELLANEOUS	
RCV101	A-1

9.20 Digital Main 1/4 Schematic Diagram

“●” = SMD

***1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into four and shown as IC3301 (1/4) ~ IC3301 (4/4) in this Digital Main Schematic Diagram Section.

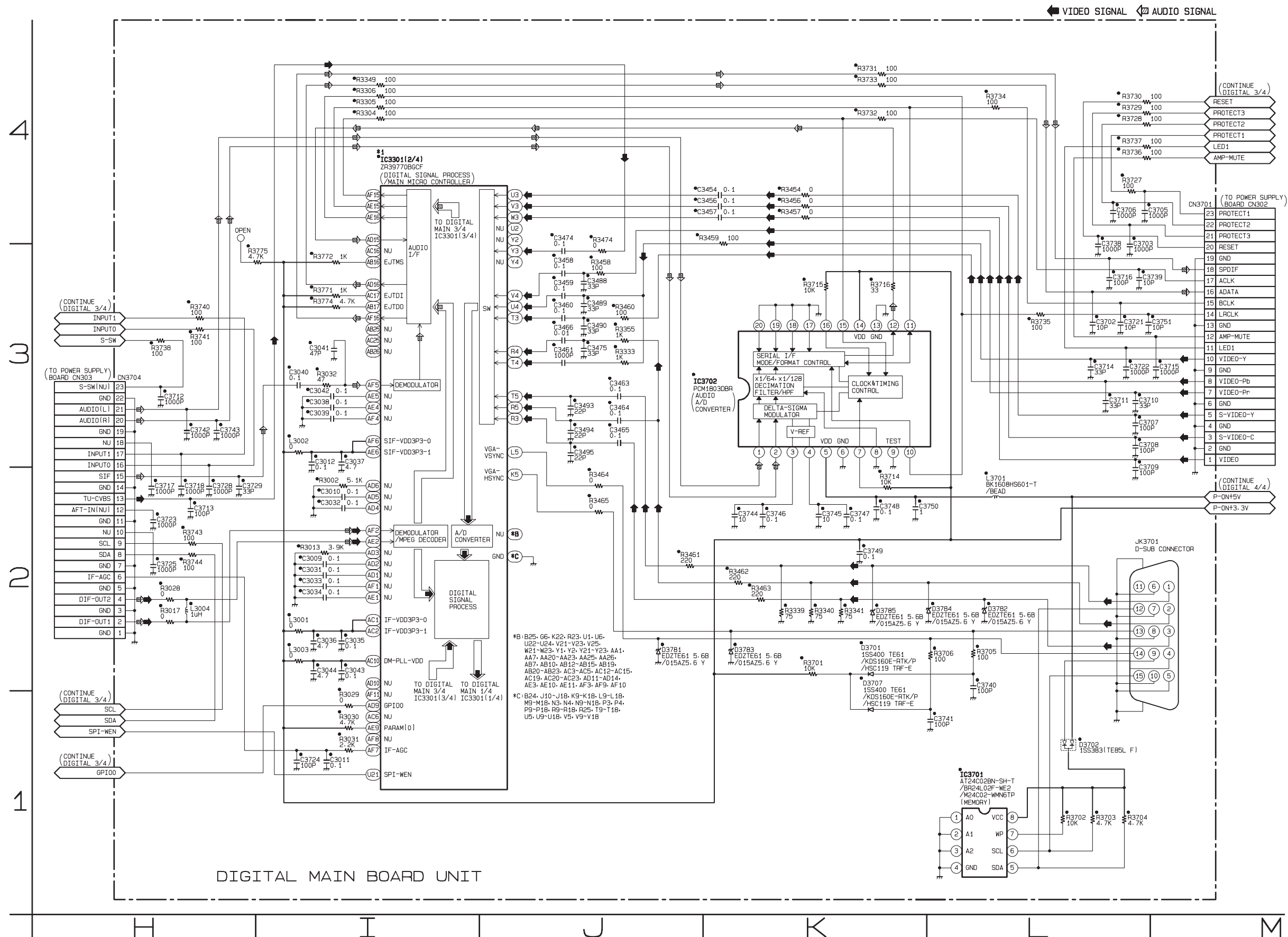


9.21 Digital Main 2/4 Schematic Diagram

“●” = SMD

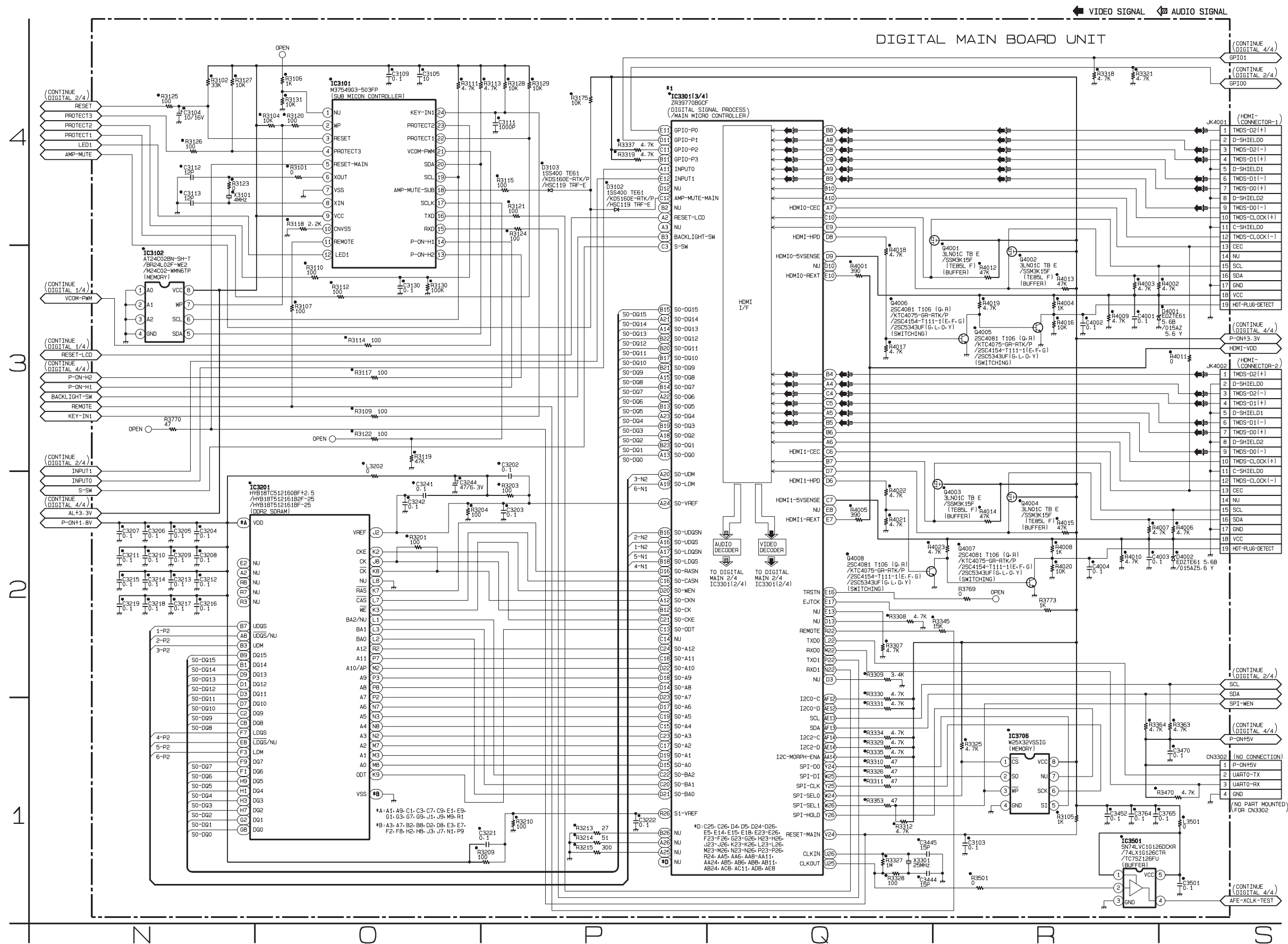
***1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into four and shown as IC3301 (1/4) ~ IC3301 (4/4) in this Digital Main Schematic Diagram Section.



***1 NOTE:**

The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into four and shown as IC3301 (1/4) ~ IC3301 (4/4) in this Digital Main Schematic Diagram Section.

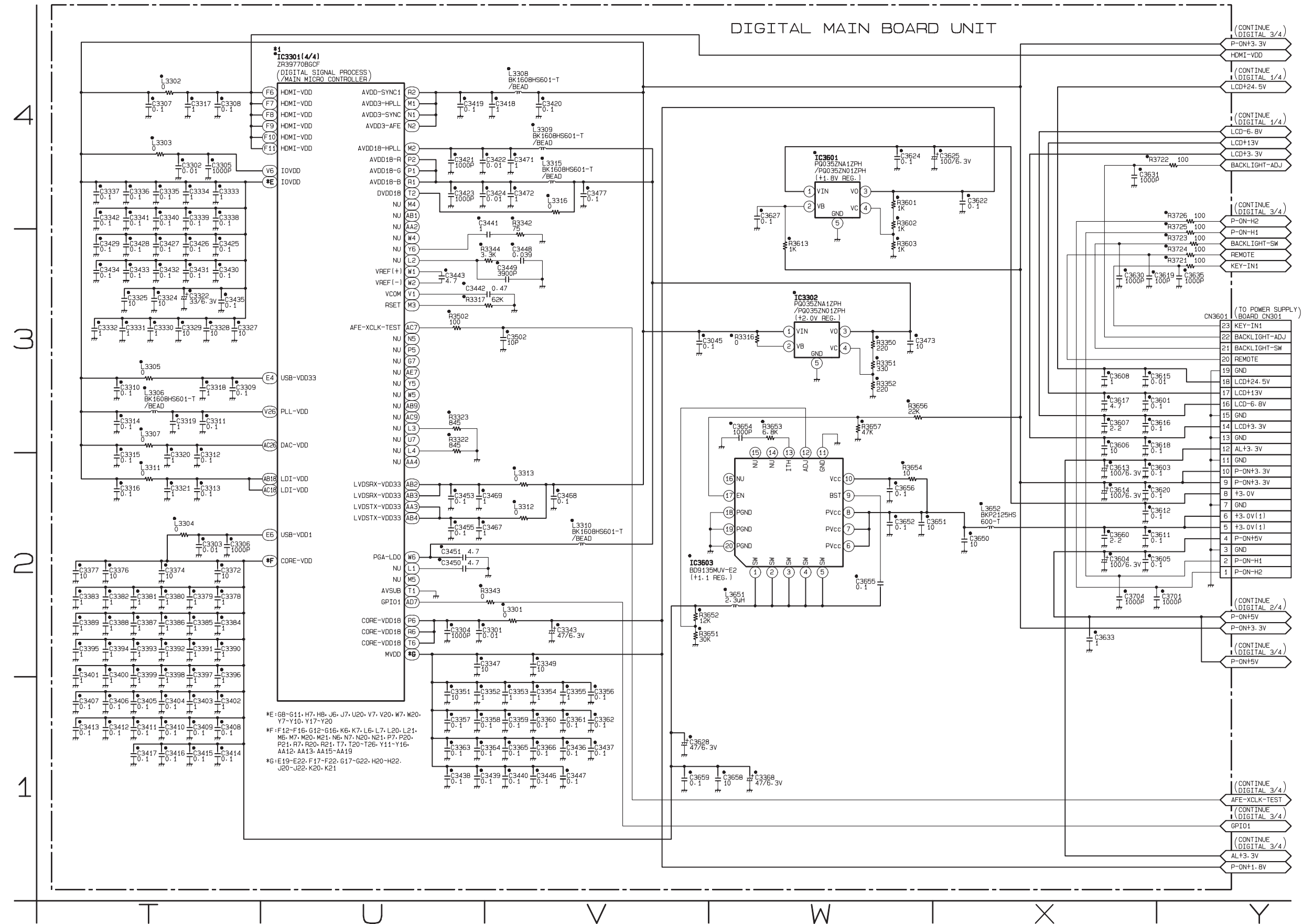


9.23 Digital Main 4/4 Schematic Diagram

“●” = SMD

***1 NOTE:**

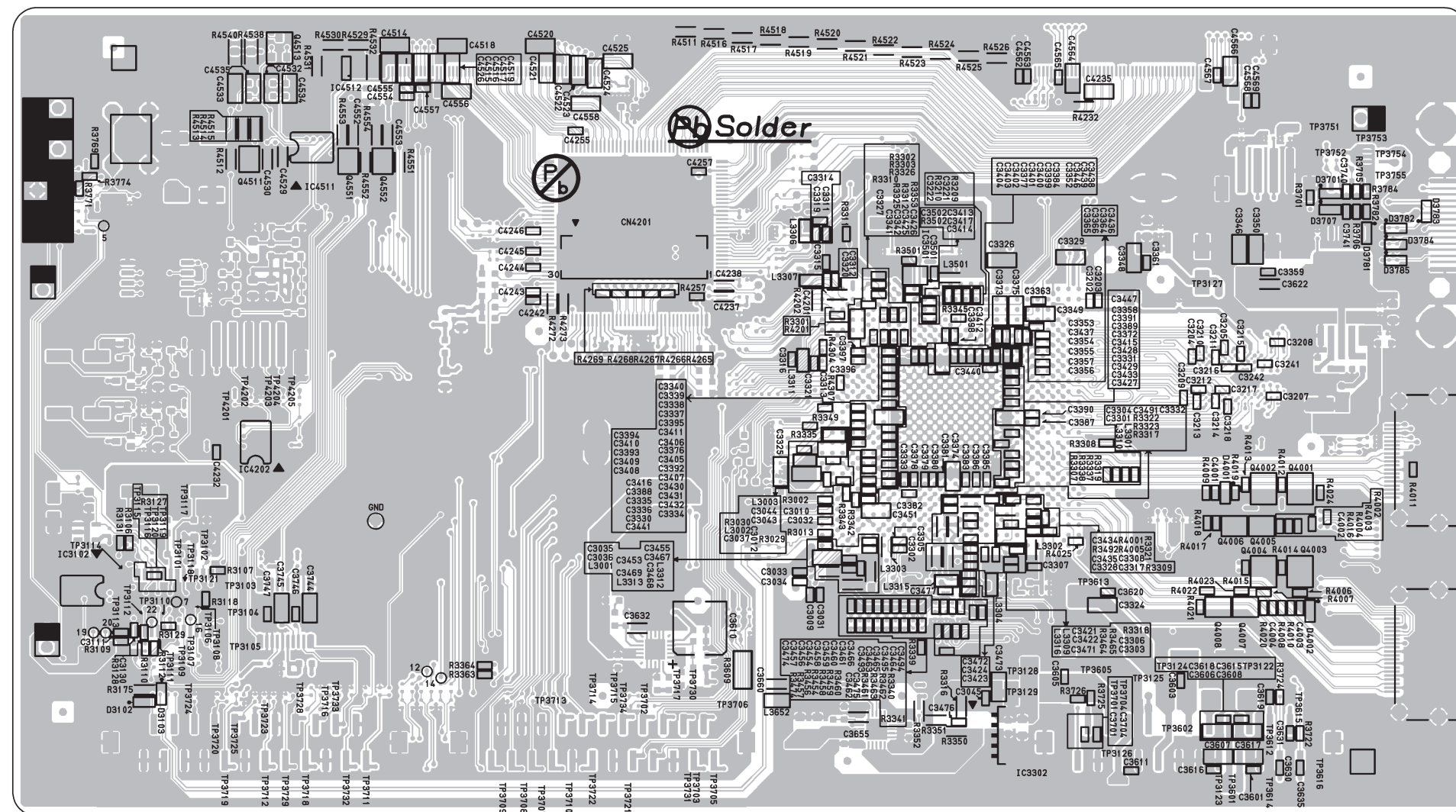
The order of pins shown in this diagram is different from that of actual IC3301.
IC3301 is divided into four and shown as IC3301 (1/4) ~ IC3301 (4/4) in this Digital Main Schematic Diagram Section.



9.24 Digital Main Board Layout (Top Side)



9.25 Digital Main Board Layout (Bottom Side)



C

B

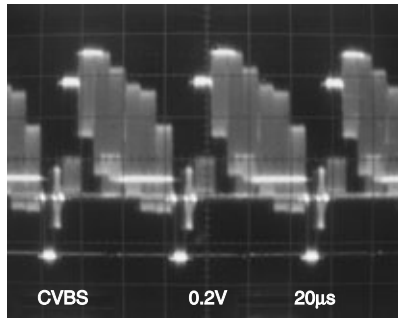
A

10. WAVEFORMS

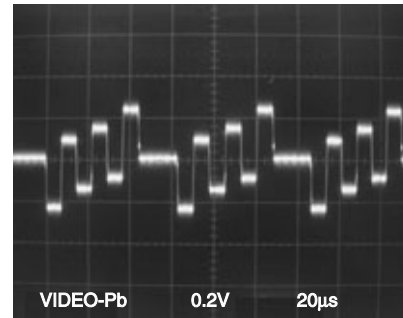
WF1 ~ WF7 = Waveforms to be observed at
Waveform check points.
(Shown in Schematic Diagram.)

Input: NTSC Color Bar Signal (with 1kHz Audio Signal)

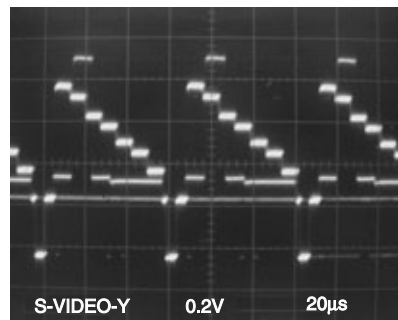
WF1 Pin 23 of CN302



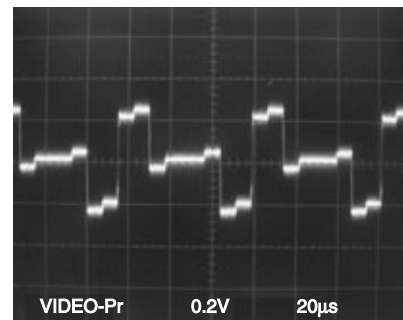
WF5 Pin 16 of CN302



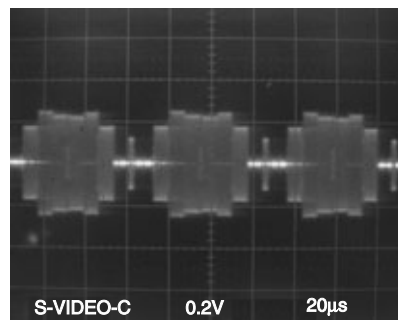
WF2 Pin 19 of CN302



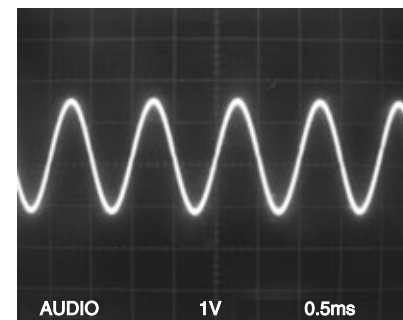
WF6 Pin 17 of CN302



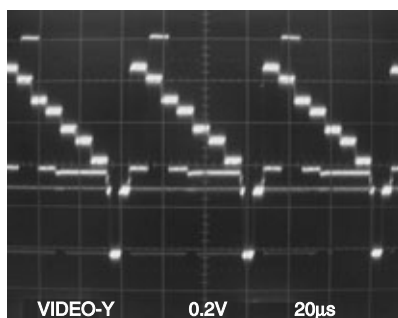
WF3 Pin 21 of CN302



WF7 Pin 3 of CN303



WF4 Pin 14 of CN302



The diagram illustrates the internal wiring of a device, showing the connection of various boards to a central main board. The components and their connections are as follows:

- Digital Main Board Unit:** Connected to the main board via connectors CN4501 (55pin), CN4502 (55pin), CN3704 (23pin), CN3701 (23pin), CN3601 (23pin), CN301 (23pin), CN302 (23pin), and CN303 (23pin).
- Power Supply Board:** Connected to the main board via connectors CN701 (9pin) and CN801 (2pin).
- Inverter Board:** Connected to the main board via connectors CN1050 (2pin), CN1100 (2pin), CN1150 (2pin), CN1200 (2pin), and CN1250 (2pin).
- Function Board:** Connected to the main board via connector CL102B (3pin).
- Side Jack Board:** Connected to the main board via connector CL701 (9pin).
- Junction-A Board:** Connected to the main board via connectors CN101 (6pin), CN102 (6pin), and CL101B (6pin).
- Junction-B Board:** Connected to the main board via connectors CN1000 (4pin), CL1000A (4pin), and CN501 (4pin).
- IR Sensor Board:** Connected to the main board via connectors CL102A (3pin), CL101A (6pin), and CL101B (6pin).
- Left-channel SPEAKER:** Connected to the main board via connector CL801 (9pin).
- Right-channel SPEAKER:** Connected to the main board via connector CL102B (3pin).

The diagram also shows various other components and connectors, including CN1001, CN1002, CN1003, CN1004, CN1005, CN1006, CN1007, CN1008, CN1009, CN1010, CN1011, CN1012, CN1013, CN1014, CN1015, CN1016, CN1017, CN1018, CN1019, CN1020, CN1021, CN1022, CN1023, CN1024, CN1025, CN1026, CN1027, CN1028, CN1029, CN1030, CN1031, CN1032, CN1033, CN1034, CN1035, CN1036, CN1037, CN1038, CN1039, CN1040, CN1041, CN1042, CN1043, CN1044, CN1045, CN1046, CN1047, CN1048, CN1049, CN1050, CN1051, CN1052, CN1053, CN1054, CN1055, CN1056, CN1057, CN1058, CN1059, CN1060, CN1061, CN1062, CN1063, CN1064, CN1065, CN1066, CN1067, CN1068, CN1069, CN1070, CN1071, CN1072, CN1073, CN1074, CN1075, CN1076, CN1077, CN1078, CN1079, CN1080, CN1081, CN1082, CN1083, CN1084, CN1085, CN1086, CN1087, CN1088, CN1089, CN1090, CN1091, CN1092, CN1093, CN1094, CN1095, CN1096, CN1097, CN1098, CN1099, CN1100, CN1101, CN1102, CN1103, CN1104, CN1105, CN1106, CN1107, CN1108, CN1109, CN1110, CN1111, CN1112, CN1113, CN1114, CN1115, CN1116, CN1117, CN1118, CN1119, CN1120, CN1121, CN1122, CN1123, CN1124, CN1125, CN1126, CN1127, CN1128, CN1129, CN1130, CN1131, CN1132, CN1133, CN1134, CN1135, CN1136, CN1137, CN1138, CN1139, CN1140, CN1141, CN1142, CN1143, CN1144, CN1145, CN1146, CN1147, CN1148, CN1149, CN1150, CN1151, CN1152, CN1153, CN1154, CN1155, CN1156, CN1157, CN1158, CN1159, CN1160, CN1161, CN1162, CN1163, CN1164, CN1165, CN1166, CN1167, CN1168, CN1169, CN1170, CN1171, CN1172, CN1173, CN1174, CN1175, CN1176, CN1177, CN1178, CN1179, CN1180, CN1181, CN1182, CN1183, CN1184, CN1185, CN1186, CN1187, CN1188, CN1189, CN1190, CN1191, CN1192, CN1193, CN1194, CN1195, CN1196, CN1197, CN1198, CN1199, CN1200, CN1201, CN1202, CN1203, CN1204, CN1205, CN1206, CN1207, CN1208, CN1209, CN1210, CN1211, CN1212, CN1213, CN1214, CN1215, CN1216, CN1217, CN1218, CN1219, CN1220, CN1221, CN1222, CN1223, CN1224, CN1225, CN1226, CN1227, CN1228, CN1229, CN1230, CN1231, CN1232, CN1233, CN1234, CN1235, CN1236, CN1237, CN1238, CN1239, CN1240, CN1241, CN1242, CN1243, CN1244, CN1245, CN1246, CN1247, CN1248, CN1249, CN1250, CN1251, CN1252, CN1253, CN1254, CN1255, CN1256, CN1257, CN1258, CN1259, CN1260, CN1261, CN1262, CN1263, CN1264, CN1265, CN1266, CN1267, CN1268, CN1269, CN1270, CN1271, CN1272, CN1273, CN1274, CN1275, CN1276, CN1277, CN1278, CN1279, CN1280, CN1281, CN1282, CN1283, CN1284, CN1285, CN1286, CN1287, CN1288, CN1289, CN1290, CN1291, CN1292, CN1293, CN1294, CN1295, CN1296, CN1297, CN1298, CN1299, CN1300, CN1301, CN1302, CN1303, CN1304, CN1305, CN1306, CN1307, CN1308, CN1309, CN1310, CN1311, CN1312, CN1313, CN1314, CN1315, CN1316, CN1317, CN1318, CN1319, CN1320, CN1321, CN1322, CN1323, CN1324, CN1325, CN1326, CN1327, CN1328, CN1329, CN1330, CN1331, CN1332, CN1333, CN1334, CN1335, CN1336, CN1337, CN1338, CN1339, CN1340, CN1341, CN1342, CN1343, CN1344, CN1345, CN1346, CN1347, CN1348, CN1349, CN1350, CN1351, CN1352, CN1353, CN1354, CN1355, CN1356, CN1357, CN1358, CN1359, CN1360, CN1361, CN1362, CN1363, CN1364, CN1365, CN1366, CN1367, CN1368, CN1369, CN1370, CN1371, CN1372, CN1373, CN1374, CN1375, CN1376, CN1377, CN1378, CN1379, CN1380, CN1381, CN1382, CN1383, CN1384, CN1385, CN1386, CN1387, CN1388, CN1389, CN1390, CN1391, CN1392, CN1393, CN1394, CN1395, CN1396, CN1397, CN1398, CN1399, CN1400, CN1401, CN1402, CN1403, CN1404, CN1405, CN1406, CN1407, CN1408, CN1409, CN1410, CN1411, CN1412, CN1413, CN1414, CN1415, CN1416, CN1417, CN1418, CN1419, CN1420, CN1421, CN1422, CN1423, CN1424, CN1425, CN1426, CN1427, CN1428, CN1429, CN1430, CN1431, CN1432, CN1433, CN1434, CN1435, CN1436, CN1437, CN1438, CN1439, CN1440, CN1441, CN1442, CN1443, CN1444, CN1445, CN1446, CN1447, CN1448, CN1449, CN1450, CN1451, CN1452, CN1453, CN1454, CN1455, CN1456, CN1457, CN1458, CN1459, CN1460, CN1461, CN1462, CN1463, CN1464, CN1465, CN1466, CN1467, CN1468, CN1469, CN1470, CN1471, CN1472, CN1473, CN1474, CN1475, CN1476, CN1477, CN1478, CN1479, CN1480, CN1481, CN1482, CN1483, CN1484, CN1485, CN1486, CN1487, CN1488, CN1489, CN1490, CN1491, CN1492, CN1493, CN1494, CN1495, CN1496, CN1497, CN1498, CN1499, CN1500, CN1501, CN1502, CN1503, CN1504, CN1505, CN1506, CN1507, CN1508, CN1509, CN1510, CN1511, CN1512, CN1513, CN1514, CN1515, CN1516, CN1517, CN1518, CN1519, CN1520, CN1521, CN1522, CN1523, CN1524, CN1525, CN1526, CN1527, CN1528, CN1529, CN1530, CN1531, CN1532, CN1533, CN1534, CN1535, CN1536, CN1537, CN1538, CN1539, CN1540, CN1541, CN1542, CN1543, CN1544, CN1545, CN1546, CN1547, CN1548, CN1549, CN1550, CN1551, CN1552, CN1553, CN1554, CN1555, CN1556, CN1557, CN1558, CN1559, CN1560, CN1561, CN1562, CN1563, CN1564, CN1565, CN1566, CN1567, CN1568, CN1569, CN1570, CN1571, CN1572, CN1573, CN1574, CN1575, CN1576

12. ALIGNMENTS

12.1 Electrical Adjustment Instructions

General Note: “CBA” is abbreviation for “Circuit Board Assembly.”

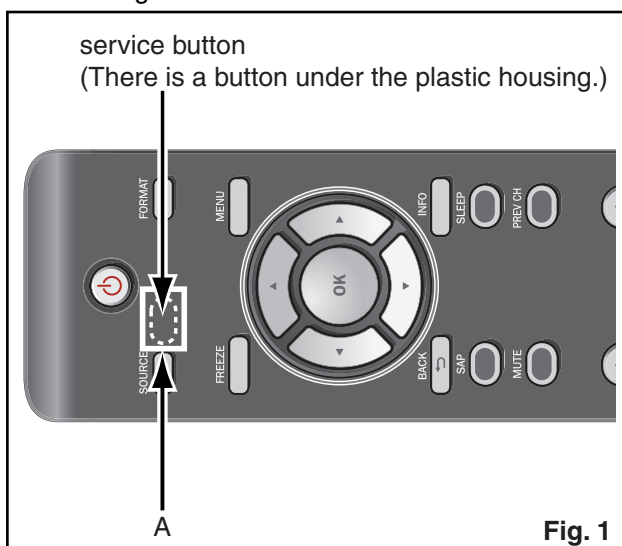
Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. DC Voltmeter
2. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
3. Remote control unit
4. Color Analyzer

How to make the Service remote control unit:

Cut “A” portion of the attached remote control unit as shown in Fig. 1.



How to set up the service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press the service button on the service remote control unit. The following screen appears.

"*" differs depending on the models.

```

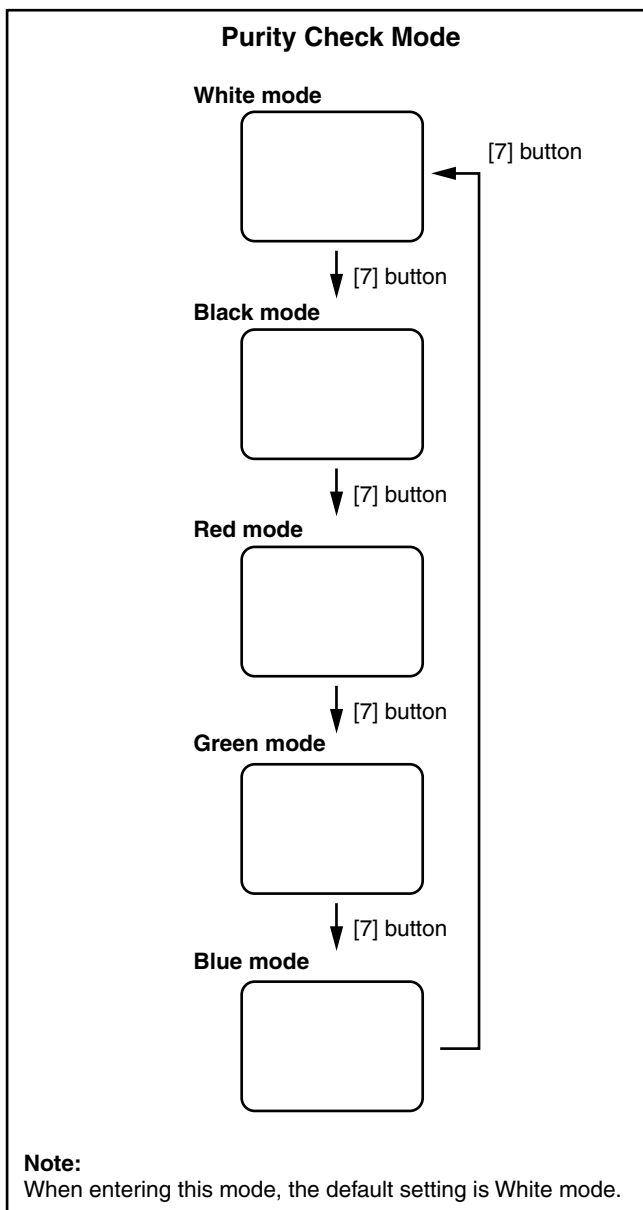
Code :      *****_***
Boot :      **** * ***
System :    **** * ***
SubCPU :    ****
Pic code :  **_***_**_*****_***
Picture :   **** * ***

Panel :      ***
Other :      **
Safety :     *****_***
Tuner :      *****_*****
HDMI1 Block0 : **
                Block1 : **
HDMI2 Block1 : **
  
```

1. Purity Check Mode

This mode cycles through full-screen displays of red, green, blue, and white to check for non-active pixels.

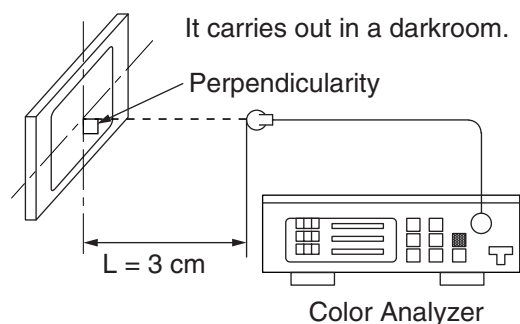
1. Enter the Service mode.
2. Each time pressing [7] button on the service remote control unit, the display changes as follows.



2. VCOM Adjustment.

Test Point	Adj. Point
Screen	[CH. + / -] buttons
M. EQ.	Spec.
Color analyzer	See below

Figure



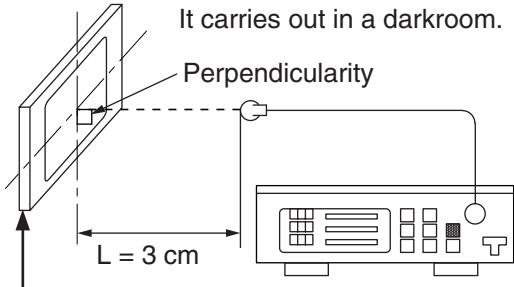
1. Operate the unit for more than 20 minutes.
2. Set the color analyzer and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
3. Enter the Service mode.
4. Press [2] button on the service remote control unit.
5. Press [CH. + / -] buttons on the service remote control unit so that the color analyzer value becomes minimum.

The following adjustment normally are not attempted in the field. Only when replacing the LCD Panel then adjust as a preparation.

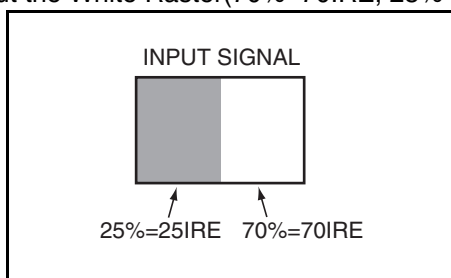
3. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. + / -] buttons	[VIDEO1] C/D	White Raster (APL 70%) or (APL 25%)
M. EQ.		Spec.	
Pattern Generator, Color analyzer		$x = 0.272 \pm 0.005$ $y = 0.278 \pm 0.005$	
Figure			
 It carries out in a darkroom. Perpendicularity L = 3 cm INPUT: WHITE 70%, 25% Color Analyzer			

1. Operate the unit for more than 20 minutes.
2. Input the White Raster(70%=70IRE, 25%=25IRE).



3. Set the color analyzer to the CHROMA mode and bring the optical receptor to the center on the LCD-Panel surface after zero point calibration as shown above.
Note: The optical receptor must be set perpendicularly to the LCD Panel surface.
4. Enter the Service mode. Press [VOL. -] button on the service remote control unit and select "C/D" mode.

5. [CUTOFF]

Press [3] button to select "COB" for Blue Cutoff adjustment. Press [1] button to select "COR" for Red Cutoff adjustment.

[DRIVE]

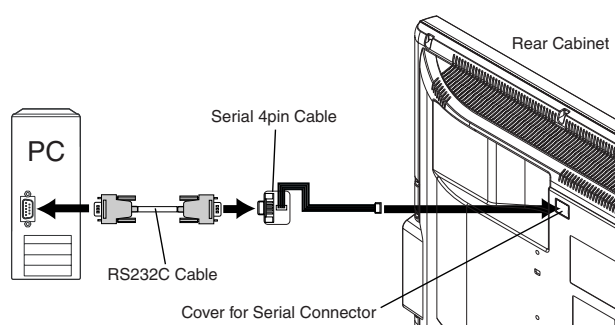
Press [6] button to select "DB" for Blue Drive adjustment. Press [4] button to select "DR" for Red Drive adjustment.

6. In each color mode, press [CH. + / -] buttons to adjust the values of color.
7. Adjust Cutoff and Drive so that the color temperature becomes 12000°K ($x = 0.272$ / $y = 0.278 \pm 0.005$).

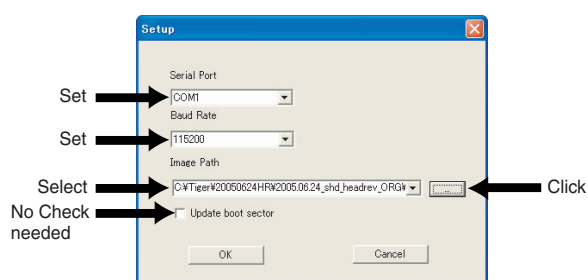
12.2 Firmware Renewal Mode

Equipment Required

- Serial 4pin Cable
 - RS232C Cable
 - "iDev .exe" file
 - "***.ecc" file
- Remove the Cover for Serial Connector on the rear cabinet.
 - Connect the Serial 4pin Cable to the Serial Connector, the Serial 4pin Cable to the RS232C Cable, and the RS232C Cable to the PC.



- Plug in the AC Cord and turn LCD TV power on.
- Execute the "iDev .exe" file.
- Click "setup" menu.
 - Set Serial Port. Conform it to the PC's Serial Port. (generally "COM1")
 - Set Baud Rate to "115200".
 - Select "***.ecc" file for Image Path.



- Click "OK" and turn the LCD TV power off.
- Click "down" and when "waiting for ping..." is displayed, turn the LCD TV power on.
- Wait for updating. When "Finished, Please reset the HDTV" is displayed, unplug the AC Cord.
- Updating is complete.

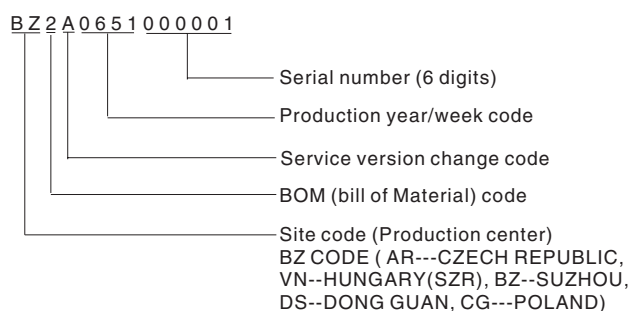
12.3 How to initialize the LCD TV

- Turn the power on.
- To enter the service mode, press the service button on the service remote control unit.
 - To cancel the service mode, press [POWER] button on the remote control unit.
- Press [INFO] button on the service remote control unit to initialize the LCD TV.
- "INITIALIZED" will appear in the upper right of the screen. "INITIALIZED" color will change to green from red when initializing is complete.

12.4 Serial Number Definition

BOM Code:

PANEL SUPPLIER	CODE
AU	1
CPT	2
LPL(LG)	3
QDI	4
CMO	5
HSD	6
SVA	7



13. ABBREVIATIONS LIST

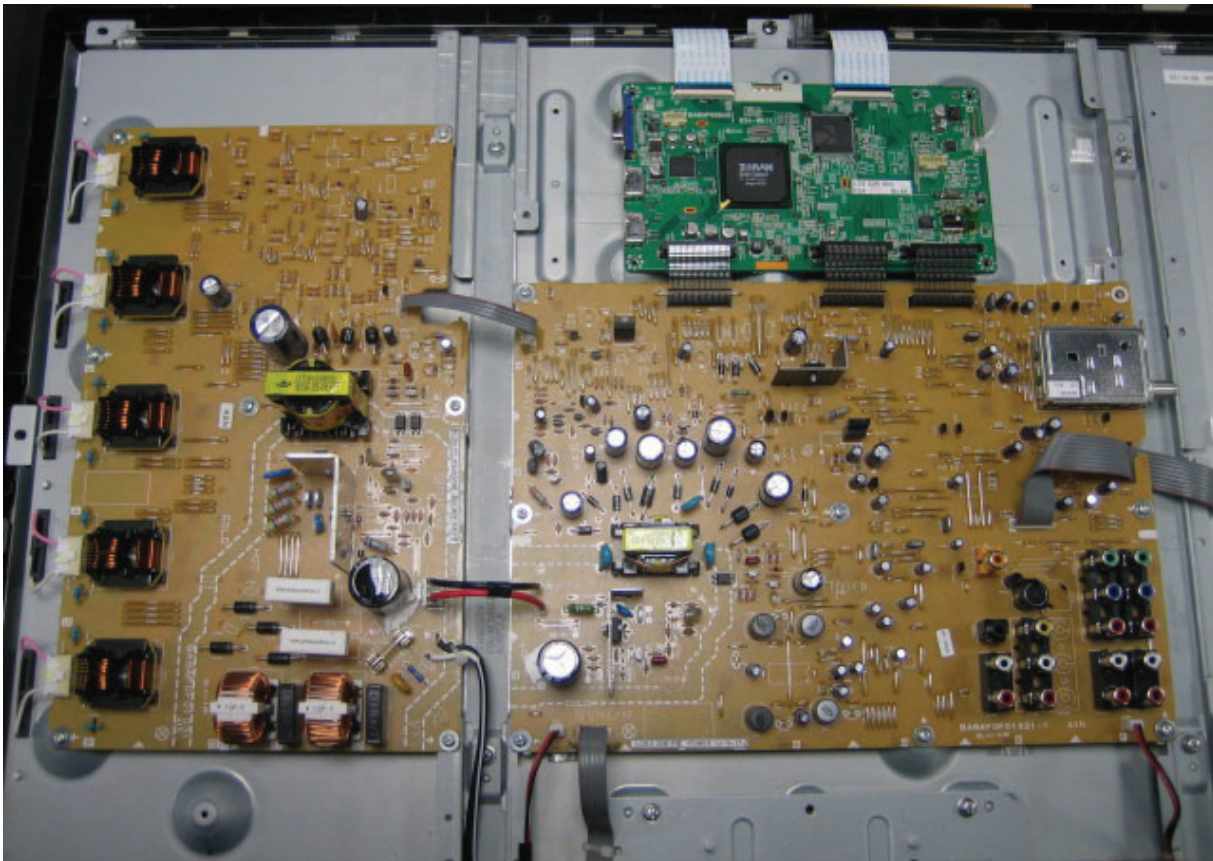
CSM	Customer Service Mode
ATSC	Advanced Television Systems Committee, the digital TV standard in the USA
DVD	Digital Versatile Disc
EEPROM	Electrically Erasable and Programmable Read Only Memory
3DNR	Temporal (3D) Noise Reduction
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
FM	Field Memory or Frequency Modulation
AM	Amplitude Modulation
AP	Asia Pacific
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars without discarding video information
ATV	See Auto TV
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
AV	External Audio Video
AVIP	Audio Video Input Processor
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz ComPair Computer aided rePair
CP	Connected Planet / Copy Protection
CSS	Content Scrambling System; An encryption method for MPEG-2 video on DVDs. The algorithm and keys required to decode the disc are stored on the DVD-player
CVBS	Composite Video Blanking and Synchronization
DFU	Directions For Use: owner's manual
DNR	Digital Noise Reduction: noise reduction feature of the set
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for service technicians
DTCP	Digital Transmission Content Protection; A protocol for protecting digital audio/video content that is traversing a high speed serial bus, such as IEEE-1394
DVI(-d)	Digital Visual Interface (d= digital only)
EAS	Emergency Alert Signalling; A cable TV standard (SCTE18) to signal emergency information to digital terminal devices
E-DDC	Enhanced Display Data Channel (VESA standard for communication channel and display). Using E-DDC, the video source can read the EDID information from the display.
EDID	Extended Display Identification Data (VESA standard)
EMI	Electro Magnetic Interference
EMM	Entitlement Management Message
EPLD	Erasable Programmable Logic Device
EU	Europe
FBL	Fast BLanking: DC signal accompanying RGB signals
FDS	Full Dual Screen (same as FDW)
FDW	Full Dual Window (same as FDS)
FLASH	FLASH memory
FTV	Flat TeleVision

H	H_sync to the module
HD	High Definition
HDD	Hard Disk Drive
NTSC	National Television Standard Committee. Color system mainly used in North America and Japan. Color carrier NTSC M/N= 3.579545 MHz, NTSC 4.43= 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non-Volatile Memory: IC containing TV related data such as alignments
OSD	On Screen Display
PLL	Phase Locked Loop. Used for e.g.
LVDS	Low Voltage Differential Signalling
PAL	Phase Alternating Line. Color system mainly used in West Europe (color carrier= 4.433619 MHz) and South America (color carrier PAL M= 3.575612 MHz and PAL N= 3.582056MHz)
PCB	Printed Circuit Board (same as PWB)
PCM	Pulse Code Modulation
PWB	Printed Wiring Board (same as "PCB")
PWM	Pulse Width Modulation
QAM	Quadrature Amplitude Modulation; modulation method
RAM	Random Access Memory
RGB	Red, Green, and Blue. The primary color signals for TV. By mixing levels of R, G, and B, all colors (Y/C) are reproduced.
RC	Remote Control RC5 / RC6 Signal protocol from the remote control receiver
RESET	RESET signal
ROM	Read Only Memory
SAM	Service Alignment Mode
SCART	Syndicat des Constructeurs d'Appareils Radiorecepteurs et Televisieurs
SCL	Serial Clock I2C
SCL-F	CLock Signal on Fast I2C bus
SD	Standard Definition
SDA	Serial Data I2C
SDA-F	DAta Signal on Fast I2C bus
SDI	Serial Digital Interface, see "ITU-656"
SDRAM	Synchronous DRAM
SECAM	SEquence Couleur Avec Memoire. Color system mainly used in France and East Europe. Color carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SOG	Sync On Green
SOPS	Self Oscillating Power Supply
I2C	Integrated IC bus
I2D	Integrated IC Data bus
I2S	Integrated IC Sound bus
IB	In Band channel
IF	Intermediate Frequency

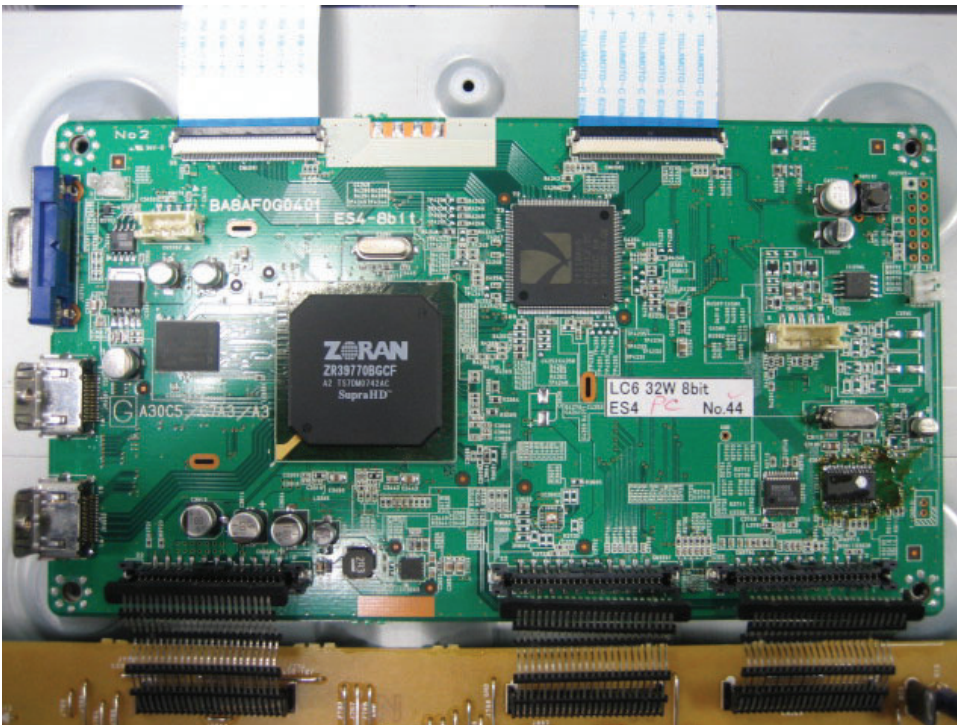
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt Request
LATAM	Latin America
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LPL	LG.Philips LCD (supplier)
MUTE	MUTE Line
TFT	Thin Film Transistor
SRAM	Static RAM
STBY	STandBY
SOG	Sync On Green
SVGA	800x600 (4:3)
SVHS	Super Video Home System
SW	Software
SWAN	Spatial temporal Weighted Averaging Noise reduction
SXGA	1280x1024
TMDS	Transmission Minimized Differential Signalling
UXGA	1600x1200 (4:3)
V	V-sync to the module
VCR	Video Cassette Recorder
VESA	Video Electronics Standards Association
VGA	640x480 (4:3)
VL	Variable Level out: processed audio output toward external amplifier
VSB	Vestigial Side Band; modulation method
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
WXGA	1280x768 (15:9)
XGA	1024x768 (4:3)
Y	Luminance signal
YPbPr	Component video. Luminance and scaled color difference signals (B-Y and R-Y)

14. STRUCTURE & IC

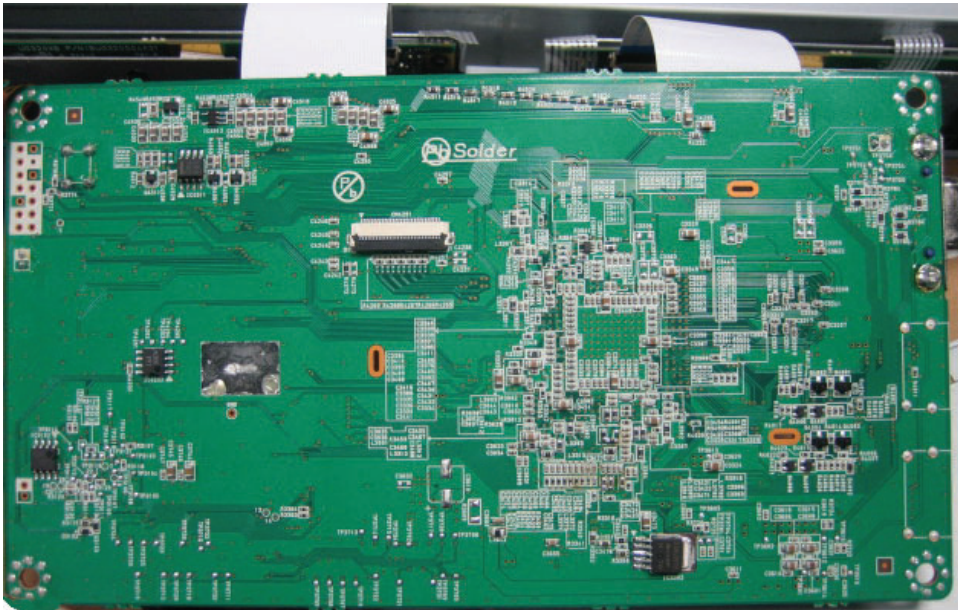
1) Overview



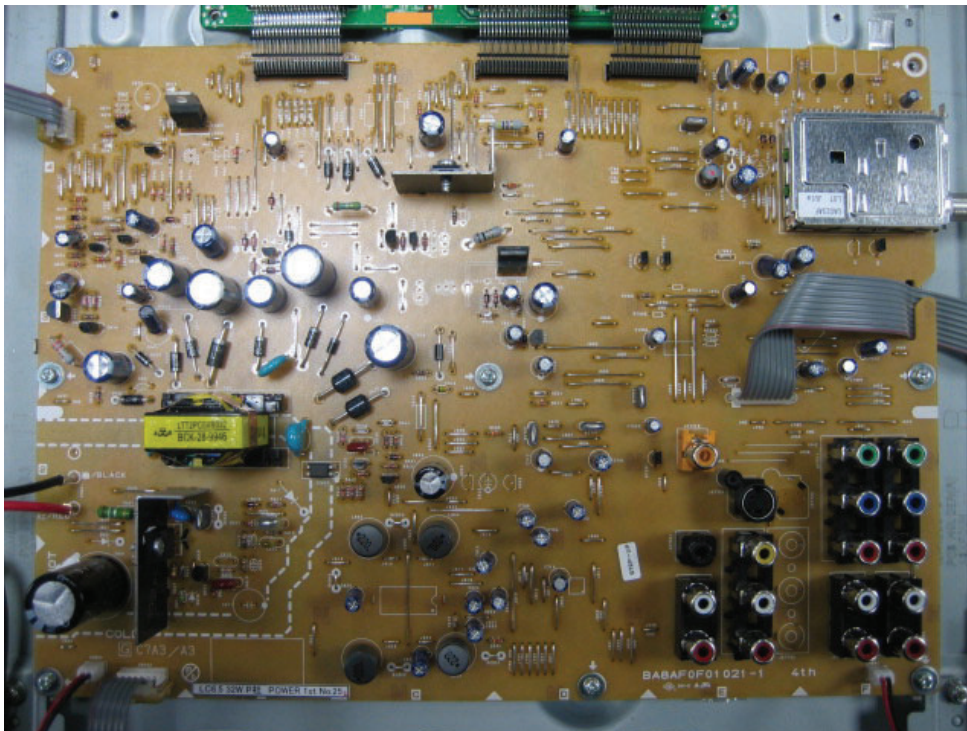
2) Digital Main Board Unit Layout (Top Side)



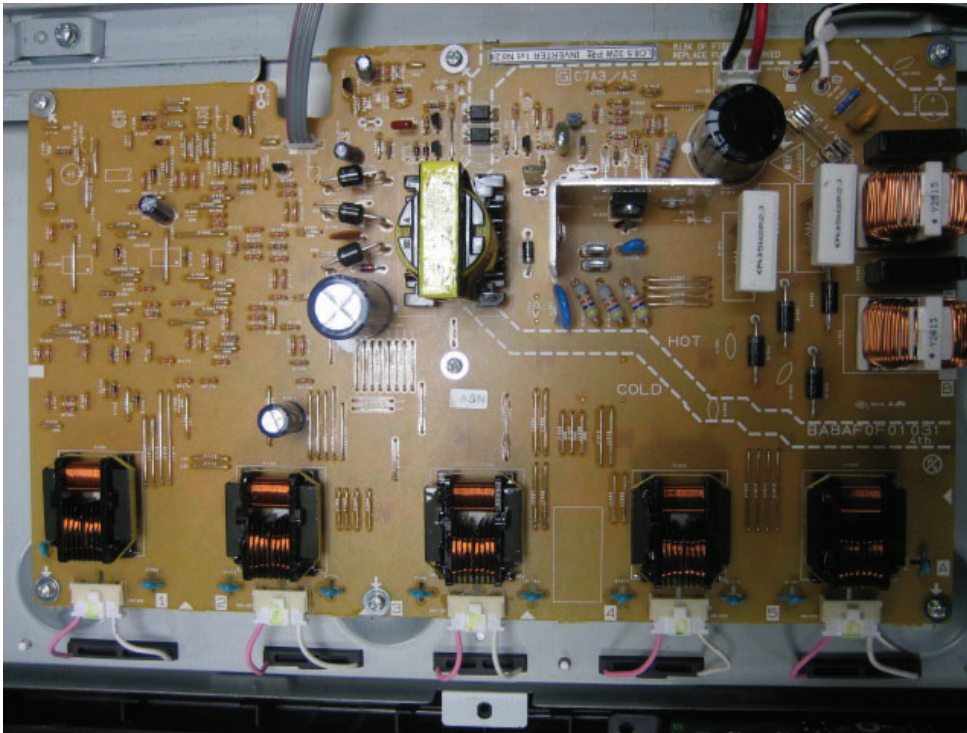
3)Digital Main Board Unit Layout (Bottom Side)



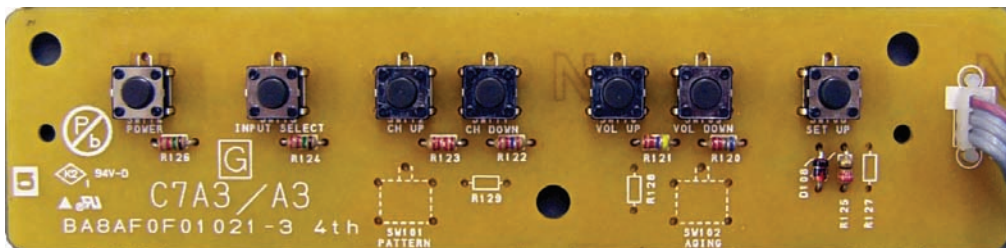
4)Power Supply Board Layout



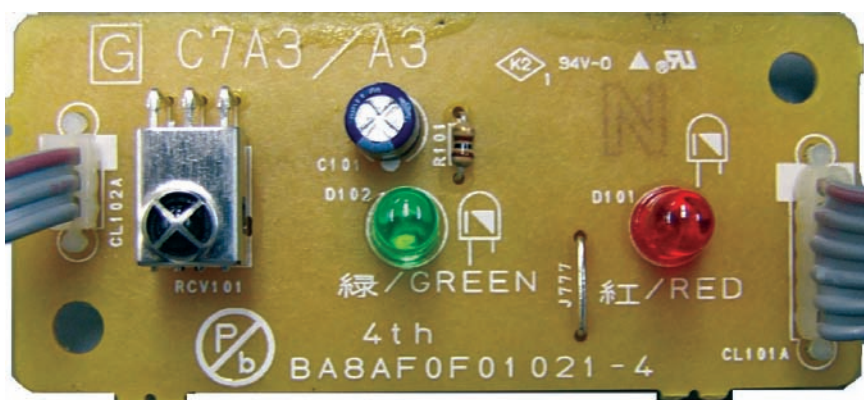
5) Inverter Board Layout



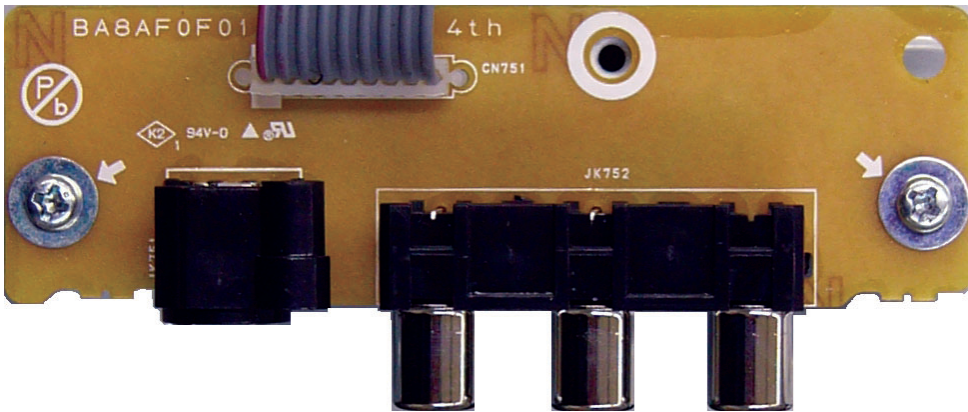
6) Function Board Layout



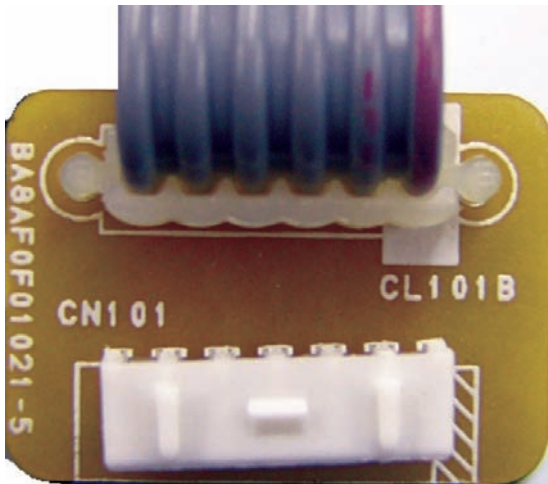
7) IR Sensor Board Layout



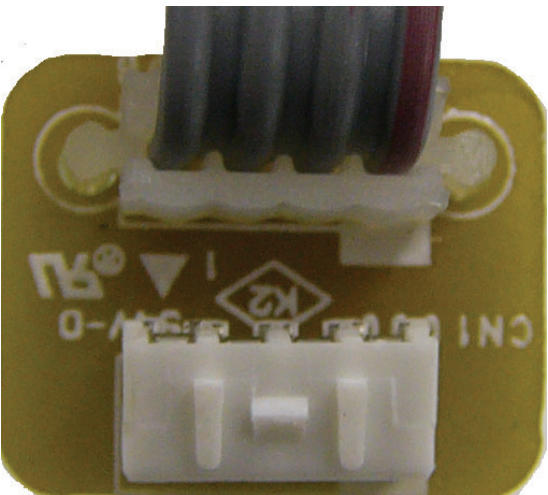
7)Side Jack Board Layout



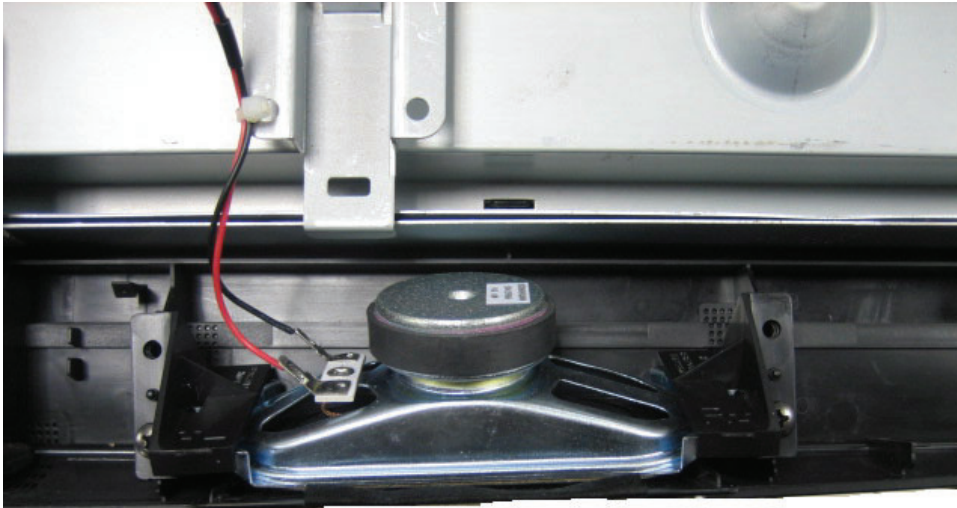
8)Junction-A Board Layout



9)Junction-B Board Layout



10)Speaker Layout



11)IC3301 Layout



12)IC4201 Layout



15. ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

Parts that are not assigned part numbers (-----) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

ELECTRICAL PARTS LIST			
Pos.No.		12 NC	Description
ASSY1			MPS BOARD
Consists of the following:			
ASSY1a			POWER SUPPLY BOARD(MPS-1)
ASSY1b			SIDE JACK BOARD(MPS-2)
ASSY1c			FUNCTION BOARD(MPS-3)
ASSY1d			IR SENSOR BOARD(MPS-4)
ASSY1e			JUNCTION-A BOARD(MPS-5)
POWER SUPPLY BOARD(MPS-1)			
B16			POW HEAT SINK A7120UH
B17			MODULE HEAT SINK PMC P7150UT
BC1			BEADS INDUCTOR FBR07HA121SB-00
BC2			BEADS INDUCTOR FBR07HA121SB-00
BC3			PCB JUMPER D0.6-P5.0
BC4			CHIP INDUCTOR BK1608HS601-T
BC4			COIL CHIP BEADS HPZ1608U601-R50T(F)
BC601			BEADS INDUCTOR FBR07HA121SB-00
BC701			BEADS INDUCTOR FBR07HA121SB-00
BC702			BEADS INDUCTOR FBR07HA121SB-00
BC801			PCB JUMPER D0.6-P5.0
BC802			PCB JUMPER D0.6-P5.0
BC803			PCB JUMPER D0.6-P5.0
BC804			PCB JUMPER D0.6-P5.0
BC7206			BEADS INDUCTOR FBR07HA121SB-00
CL701			WIRE ASSEMBLY 006 9PIN / 300MM / AWG26
JK7501			JACK HPEP SML PCB S PJ-358H
JK7501			JACK HPEP SML PCB S 02 MSJ-035-29D (ABS)
JK7701			JACK SW DIN PCB S 04/DIN-417HA-01
JK7701			JACK SW DIN PCB S 04 MDC-076H-A LF
JK7701			Y/C JACK YKF51-5646N
JK7702			JACK SW RCA PCB S RCA-347HDT-02
JK7702			JACK SW RCA PCB S 03 MTJ-032-45BBA-432
JK7705			JACK RCA PCB S RCA-228H(NI)-01

ELECTRICAL PARTS LIST			
Pos.No.		12 NC	Description
JK7711			JACK RCA PCB S 03 RCA-347HT-03
JK7711			JACK RCA PCB S MTJ-032-45BBB-25 FEL
JK7712			JACK SW RCA PCB S RCA-228H(2)NI-01
JK7712			JACK SW RCA PCB S 02 MTJ-032-31BA-32
JK7713			JACK RCA PCB S 03 RCA-347HT-03
JK7713			JACK RCA PCB S MTJ-032-45BBB-25 FEL
JK7714			JACK SW RCA PCB S RCA-228H(2)NI-01
JK7714			JACK SW RCA PCB S 02 MTJ-032-31BA-32
JK7715			JACK RCA PCB S ORANGE 01/RCA-101H(OR)
JK7715			JACK RCA PCB S(ORANGE) 01 MTJ-032-04B-76 FE
JK7715			JACK RCA PCB S AV-4B-70HH
JS641			PCB JUMPER D0.6-P15.0
JS651			PCB JUMPER D0.6-P5.0
JS652			PCB JUMPER D0.6-P5.0
L7			SCREW B-TIGHT D3X8 BIND HEAD+
T601			TRANS POWER 8709
T601			TRANS POWER BCK-28-9946
TU1			TUNER UNIT UA023AF
CAPACITORS			
C1			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C2			CHIP CERAMIC CAP.(1608) CH J 22PF/50V
C3			CHIP CERAMIC CAP.(1608) CH J 22PF/50V
C4			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C5			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C6			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C8			ELECTROLYTIC CAP. 10UF/50V M
C9			CHIP CERAMIC CAP.(1608) F Z 0.1UF/50V
C10			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C11			CHIP CERAMIC CAP. CH J 220PF/50V
C12			ELECTROLYTIC CAP. 10UF/50V M
C13			ELECTROLYTIC CAP. 10UF/16V M H7
C14			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C15			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C17			ELECTROLYTIC CAP. 47UF/16V M H7
C18			ELECTROLYTIC CAP. 330UF/10V M
C19			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C21			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C22			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C23			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C24			CHIP CERAMIC CAP. CH J 220PF/50V
C501			ELECTROLYTIC CAP. 1UF/50V M
C601			ELECTROLYTIC CAPACITOR 270UF/200V

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C601	▲		CAP ELE LT 270UF/200V/M/85
C601	▲		CAP ELE LS 270UF/200V/M/85
C602			CERAMIC CAP. HR 470PF/2KV
C602			CERAMIC CAP. 470PF/2KV
C602			CERAMIC CAP. RB 470PF/2KV
C602			CERAMIC CAP. BL 470PF/2KV
C603			CAP CERAMIC (AX) 560PF/50V/B/K
C604			POLYESTER FILM CAP. (PB FREE) 0.047UF/100V J
C604			CAP POLYESTER FILM 0.047UF/100V J
C605			POLYESTER FILM CAP. (PB FREE) 0.0022UF/100V J
C605			CAP POLYESTER FILM 0.0022UF/100V J
C606			POLYESTER FILM CAP. (PB FREE) 0.1UF/100V J
C606			CAP POLYESTER FILM 0.1UF/100V J
C607	▲		SAFTY CAP. 2200PF/250V KX
C607	▲		SAFTY CAP. 2200PF/250V
C607	▲		CAP CERAMIC Y1 2200PF/AC400V/E/M
C608			SAFTY CAP. 2200PF/250V KX
C608			SAFTY CAP. 2200PF/250V
C608			CAP CERAMIC Y1 2200PF/AC400V/E/M
C633			ELECTROLYTIC CAP. 470UF/25V M
C634			ELECTROLYTIC CAP 3300UF/10V
C634			ELECTROLYTIC CAP. 3300UF/10V M
C635			POLYESTER FILM CAP. (PB FREE) 0.0022UF/100V J
C635			CAP POLYESTER FILM 0.0022UF/100V J
C636			CERAMIC CAP. R K 1500PF/2KV(HR)
C636			CERAMIC CAP. 1500PF/2KV
C636			CERAMIC CAP RB 1500PF/2KV
C636			CERAMIC CAP. BL 1500PF/2KV
C638			ELECTROLYTIC CAP. 1000UF/35V M
C638			ELECTROLYTIC CAP. 1000UF/35V M
C639			ELECTROLYTIC CAP. 220UF/50V M
C640			CAP CERAMIC (AX) 0.01UF/50V/B/K
C642			CAP ELE STD-85 4700UF 6.3V SL
C642			ELECTROLYTIC CAP. 4700UF/6.3V SM
C643			ELECTROLYTIC CAP. 1000UF/10V M
C644			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C647			ELECTROLYTIC CAP. 10UF/50V M
C650			ELECTROLYTIC CAP. 220UF/16V M
C651			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C652			ELECTROLYTIC CAP. 47UF/25V M
C653			ELECTROLYTIC CAP. 100UF/10V M
C654			ELECTROLYTIC CAP. 1000UF/10V M
C655			ELECTROLYTIC CAP. 1000UF/10V M
C656			ELECTROLYTIC CAP. 1000UF/6.3V M
C657			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C658			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C659			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C660			ELECTROLYTIC CAP. 22UF/50V M
C661			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C662			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C663			ELECTROLYTIC CAP. 100UF/16V M

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C664			ELECTROLYTIC CAP 3300UF/6.3V M
C664			ELECTROLYTIC CAP. 3300UF/6.3V SM
C666			ELECTROLYTIC CAP. 10UF/50V M
C668			CHIP CERAMIC CAP.(1608) F Z 0.1UF/50V
C669			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C670			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C671			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C701			ELECTROLYTIC CAP. 100UF/10V M
C702			ELECTROLYTIC CAP. 10UF/50V M
C703			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C704			ELECTROLYTIC CAP. 47UF/25V M
C705			CHIP CERAMIC CAP. B K 470PF/50V
C706			ELECTROLYTIC CAP. 47UF/25V M
C707			CHIP CERAMIC CAP. B K 470PF/50V
C708			CHIP CERAMIC CAP.(1608) CH J 68PF/50V
C709			CHIP CERAMIC CAP.(1608) CH J 68PF/50V
C712			ELECTROLYTIC CAP. 100UF/16V M
C713			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C714			ELECTROLYTIC CAP. 100UF/16V M
C801			ELECTROLYTIC CAP. 100UF/16V M
C802			ELECTROLYTIC CAP. 100UF/16V M
C803			ELECTROLYTIC CAP. 1000UF/25V M
C803			ELECTROLYTIC CAP. 1000UF/25V M
C804			ELECTROLYTIC CAP. 10UF/50V M
C805			ELECTROLYTIC CAP. 10UF/50V M
C806			ELECTROLYTIC CAP. 2.2UF/50V M
C807			CHIP CERAMIC CAP.(1608) B K 0.47UF/16V
C808			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C809			CHIP CERAMIC CAP.(1608) B K 0.47UF/16V
C810			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C811			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C812			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C813			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C814			CHIP CERAMIC CAP. F Z 0.47UF/16V
C815			ELECTROLYTIC CAP. 2.2UF/50V M
C816			CHIP CERAMIC CAP.(1608) B K 0.47UF/16V
C817			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C818			CHIP CERAMIC CAP.(1608) B K 0.47UF/16V
C819			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C820			ELECTROLYTIC CAP. 10UF/50V M
C821			ELECTROLYTIC CAP. 10UF/50V M
C824			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C825			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C826			CHIP CERAMIC CAP.(1608) B K 3300PF/50V
C827			CHIP CERAMIC CAP.(1608) B K 3300PF/50V
C7001			ELECTROLYTIC CAP. 47UF/25V M

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C7002			ELECTROLYTIC CAP. 10UF/16V M H7
C7003			ELECTROLYTIC CAP. 10UF/50V M
C7004			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7005			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7006			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7007			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7008			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7009			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7010			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7012			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7013			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7101			ELECTROLYTIC CAP. 220UF/10V M
C7102			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C7109			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7110			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7111			ELECTROLYTIC CAP. 220UF/10V M
C7201			CHIP CERAMIC CAP. F Z 1UF/10V
C7202			CHIP RES.(1608) 1/10W 0 OHM
C7202			RES CHIP 1608 1/10W 0 OHM
C7203			ELECTROLYTIC CAP. 10UF/16V M H7
C7204			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C7301			CHIP CERAMIC CAP.(1608) CH J 100PF/50V
C7302			CHIP CERAMIC CAP.(1608) CH J 100PF/50V
C7303			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7304			ELECTROLYTIC CAP. 100UF/10V M
C7305			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7306			CHIP CERAMIC CAP.(1608) F Z 0.1UF/25V
C7307			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7308			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7401			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7402			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7515			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7516			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7602			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7605			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7615			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7618			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7621			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7624			CHIP CERAMIC CAP. F Z 2.2UF/10V
C7701			CHIP CERAMIC CAP.(1608) CH J 100PF/50V
C7702			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7709			CHIP CERAMIC CAP.(1608) CH J 100PF/50V
C7710			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7714			CHIP CERAMIC CAP.(1608) CH J 100PF/50V
C7715			CHIP CERAMIC CAP.(1608) B K 0.047UF/50V
C7729			CHIP CERAMIC CAP. CH J 39PF/50V
C7730			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7733			CHIP CERAMIC CAP. CH J 39PF/50V
C7734			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7738			CHIP CERAMIC CAP. CH J 39PF/50V
C7739			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7743			CHIP CERAMIC CAP. CH J 39PF/50V

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C7744			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7747			CHIP CERAMIC CAP. CH J 39PF/50V
C7748			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7751			CHIP CERAMIC CAP. CH J 39PF/50V
C7752			CHIP CERAMIC CAP. F Z 0.47UF/16V
C7801			ELECTROLYTIC CAP. 100UF/16V M
C7802			ELECTROLYTIC CAP. 100UF/16V M
CONNECTORS			
CN102			242 SERIES CONNECTOR 224202106W1
CN301			TWG CONNECTOR 23P TWG-P23P-A1
CN302			TWG CONNECTOR 23P TWG-P23P-A1
CN303			TWG CONNECTOR 23P TWG-P23P-A1
CN501			242 SERIES CONNECTOR 224202104W1
CN601			WIRE ASSEMBLY 004 3PIN / 100MM / AWG18
CN801			PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)
CN801			CONNECTOR PRINT OSU TOP 2P 440054-2
CN802			PH CONNECTOR TOP 2P B2B-PH-K-S (LF)(SN)
CN802			CONNECTOR PRINT OSU TOP 2P 440054-2
DIODES			
D2			ZENER DIODE MTZJT-775.6B
D3			ZENER DIODE MTZJT-775.6B
D502			ZENER DIODE MTZJT-775.6A
D503			DIODE FR104-B
D503			DIODE FR104BB
D504			ZENER DIODE MTZJT-7710B
D505			SWITCHING DIODE 1SS133(T-77)
D505			DIODE SWITCHING HSS4148TE-E
D506			SWITCHING DIODE 1SS133(T-77)
D506			DIODE SWITCHING HSS4148TE-E
D507			SWITCHING DIODE 1SS133(T-77)
D507			DIODE SWITCHING HSS4148TE-E
D508			SWITCHING DIODE 1SS133(T-77)
D508			DIODE SWITCHING HSS4148TE-E
D509			SWITCHING DIODE 1SS133(T-77)
D509			DIODE SWITCHING HSS4148TE-E
D510			SWITCHING DIODE 1SS133(T-77)
D510			DIODE SWITCHING HSS4148TE-E
D511			SWITCHING DIODE 1SS133(T-77)
D511			DIODE SWITCHING HSS4148TE-E
D513			SWITCHING DIODE 1SS133(T-77)
D513			DIODE SWITCHING HSS4148TE-E
D514			SWITCHING DIODE 1SS133(T-77)
D514			DIODE SWITCHING HSS4148TE-E
D602	▲		ZENER DIODE MTZJT-7739B
D603			SWITCHING DIODE 1SS133(T-77)
D603			DIODE SWITCHING HSS4148TE-E
D604	▲		ZENER DIODE MTZJT-7727B
D606			ZENER DIODE MTZJT-774.3B
D607			SWITCHING DIODE 1SS133(T-77)
D607			DIODE SWITCHING HSS4148TE-E
D631			ZENER DIODE MTZJT-775.6B
D632			SCHOTTKY BARRIER DIODE ERB81-004
D632			SCHOTTKY BARRIER DIODE SB240-B/P
D632			SCHOTTKY BARRIER DIODE SB240-B/P

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
D633			DIODE FR154
D633			DIODE FR154BD
D634			IC SHUNT REGULATOR KIA431-AT/P
D634			IC SHUNT REGULATOR SL431A-AT
D634			IC SHUNT REGULATOR AZ431BZ-ATRE1
D635			ZENER DIODE MTZJT-7720B
D636			DIODE FR154
D636			DIODE FR154BD
D637			DIODE FR154
D637			DIODE FR154BD
D638			SCHOTTKY BARRIER DIODE ERC84-009
D638			SCHOTTKY BARRIER DIODE SB390
D638			SCHOTTKY BARRIER DIODE SB390
D639			SCHOTTKY BARRIER DIODE ERC84-009
D639			SCHOTTKY BARRIER DIODE SB390
D639			SCHOTTKY BARRIER DIODE SB390
D640			SCHOTTKY BARRIER DIODE SB340
D640			SCHOTTKY BARRIER DIODE SB340
D640			SCHOTTKY BARRIER DIODE ERC81-004
D641			SWITCHING DIODE 1SS133(T-77)
D641			DIODE SWITCHING HSS4148TE-E
D642			SWITCHING DIODE 1SS133(T-77)
D642			DIODE SWITCHING HSS4148TE-E
D644			DIODE 1ZC43(Q)
D644			DIODE ZENER 1ZB43BB
D645			SWITCHING DIODE 1SS133(T-77)
D645			DIODE SWITCHING HSS4148TE-E
D646			SWITCHING DIODE 1SS133(T-77)
D646			DIODE SWITCHING HSS4148TE-E
D647			SCHOTTKY BARRIER DIODE ERB81-004
D647			SCHOTTKY BARRIER DIODE SB240-B/P
D647			SCHOTTKY BARRIER DIODE SB240-B/P
D648			IC SHUNT REGULATOR KIA431-AT/P
D648			IC SHUNT REGULATOR SL431A-AT
D648			IC SHUNT REGULATOR AZ431BZ-ATRE1
D649			ZENER DIODE MTZJT-7733B
D650			ZENER DIODE MTZJT-776.2C
D651			DIODE FR104-B
D651			DIODE FR104BB
D652			ZENER DIODE MTZJT-7724A
D654			DIODE FR154
D654			DIODE FR154BD
D655			ZENER DIODE MTZJT-775.6B
D656			ZENER DIODE MTZJT-7716B
D657			DIODE FR154
D657			DIODE FR154BD
D658			ZENER DIODE MTZJT-775.6C
D660			ZENER DIODE MTZJT-776.8B
D667			SCHOTTKY BARRIER DIODE SB140
D667			SCHOTTKY BARRIER DIODE SB140
D668			PCB JUMPER D0.6-P5.0
D669			SCHOTTKY BARRIER DIODE ERA81-004Q
D669			SCHOTTKY BARRIER DIODE SB160
D669			SCHOTTKY BARRIER DIODE SB160
D670			SWITCHING DIODE 1SS133(T-77)
D670			DIODE SWITCHING HSS4148TE-E
D671			SWITCHING DIODE 1SS133(T-77)

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
D671			DIODE SWITCHING HSS4148TE-E
D676			SWITCHING DIODE 1SS133(T-77)
D676			DIODE SWITCHING HSS4148TE-E
D801			ZENER DIODE MTZJT-7710B
D802			ZENER DIODE MTZJT-775.6B
D804			SWITCHING DIODE 1SS133(T-77)
D804			DIODE SWITCHING HSS4148TE-E
D805			SWITCHING DIODE 1SS133(T-77)
D805			DIODE SWITCHING HSS4148TE-E
D811			ZENER DIODE MTZJT-7720B
D812			ZENER DIODE MTZJT-7720B
D813			ZENER DIODE MTZJT-7720B
D814			ZENER DIODE MTZJT-7720B
ICS			
IC603	▲		PHOTO COUPLER LTV817MCF
IC603	▲		PHOTO COUPLER PS2561L1-1-A-V(L)
IC637			IC LD1117V
IC637			IC REGULATOR UTC1117TA
IC637			VOLTAGE REGULATOR UZ1086L-ADJ
IC701			IC(AUDIO D/A) PCM1782DBQR
IC702			IC OP AMP NJM4558M(TE1)-#ZZZB
IC702			IC OPAMP KIA4558F-EL/P FLP 8P
IC801			IC POWER AMP R2A15108SN
IC7001			IC VIDEO ANALOG INTERFACE R2A11011FP QFP 56PIN
IC7301			IC SWITCHING TC4052BF(ELNF)
IC7301			IC SWITCHING CD4052BNSR
IC7301			IC SWITCH 4052L-S16-R/SOP-16
IC7301			IC SWITCH HCF4052M013TR/SOP/16
COILS			
L1			CHOKE COIL 22UH-K
L1			FIXED INDUCTOR(PB FREE) LGB0810TLF-220K
L1			CHOKE COIL 22UH-K
L801			COIL RADIAL LHLP10NB220M 22UH
L802			COIL RADIAL LHLP10NB220M 22UH
L803			COIL RADIAL LHLP10NB220M 22UH
L804			COIL RADIAL LHLP10NB220M 22UH
L7802			PCB JUMPER D0.6-P5.0
L7803			PCB JUMPER D0.6-P5.0
TRANSISTORS			
Q2			TRANSISTOR KTC3199-GR-AT/P
Q2			TRANSISTOR KTC3198-GR-AT/P
Q2			TRANSISTOR 2SC1815-GR(TE2 F T)
Q2			NPN TRANSISTOR 2SC5343MG-AT
Q3			TRANSISTOR KTC3199-GR-AT/P
Q3			TRANSISTOR KTC3198-GR-AT/P
Q3			TRANSISTOR 2SC1815-GR(TE2 F T)
Q3			NPN TRANSISTOR 2SC5343MG-AT
Q4			TRANSISTOR KTC3199-GR-AT/P
Q4			TRANSISTOR KTC3198-GR-AT/P
Q4			TRANSISTOR 2SC1815-GR(TE2 F T)
Q4			NPN TRANSISTOR 2SC5343MG-AT
Q5			TRANSISTOR KTC3199-GR-AT/P
Q5			TRANSISTOR KTC3198-GR-AT/P
Q5			TRANSISTOR 2SC1815-GR(TE2 F T)
Q5			NPN TRANSISTOR 2SC5343MG-AT
Q501			TRANSISTOR KTC3199-GR-AT/P
Q501			TRANSISTOR KTC3198-GR-AT/P
Q501			TRANSISTOR 2SC1815-GR(TE2 F T)
Q501			NPN TRANSISTOR 2SC5343MG-AT

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
Q502			TRANSISTOR KTC3199-GR-AT/P
Q502			TRANSISTOR KTC3198-GR-AT/P
Q502			TRANSISTOR 2SC1815-GR(TE2 F T)
Q502			NPN TRANSISTOR 2SC5343MG-AT
Q601	▲		FET MOS 2SK3563(Q)
Q602	▲		TRANSISTOR 2SC2120-O(TE2 F T)
Q602	▲		TRANSISTOR 2SC2120-Y(TE2 F T)
Q631			TRANSISTOR KTC3199-GR-AT/P
Q631			TRANSISTOR KTC3198-GR-AT/P
Q631			TRANSISTOR 2SC1815-GR(TE2 F T)
Q631			NPN TRANSISTOR 2SC5343MG-AT
Q632			TRANSISTOR KTA1267-GR-AT/P
Q632			TRANSISTOR KTA-1266-GR-AT/P
Q632			TRANSISTOR 2SA1015-GR(TE2 F T)
Q632			TRANSISTOR 2SA1015-Y(TE2 F T)
Q632			PNP TRANSISTOR 2SA1980MG-AT
Q632			PNP TRANSISTOR 2SA1980M Y
Q633			TRANSISTOR KTC3199-GR-AT/P
Q633			TRANSISTOR KTC3198-GR-AT/P
Q633			TRANSISTOR 2SC1815-GR(TE2 F T)
Q633			NPN TRANSISTOR 2SC5343MG-AT
Q634			TRANSISTOR KTC3199-GR-AT/P
Q634			TRANSISTOR KTC3198-GR-AT/P
Q634			TRANSISTOR 2SC1815-GR(TE2 F T)
Q634			NPN TRANSISTOR 2SC5343MG-AT
Q637			NPN TRANSISTOR POWER 2SC4881F HFE MAX320
Q637			TRANSISTOR(PB FREE) KTC2026-Y/ P
Q637			NPN TRANSISTOR STC403
Q638			NPN TRANSISTOR POWER 2SC4881F HFE MAX320
Q638			TRANSISTOR(PB FREE) KTC2026-Y/ P
Q638			NPN TRANSISTOR STC403
Q639			TRANSISTOR KTA1267-GR-AT/P
Q639			TRANSISTOR KTA-1266-GR-AT/P
Q639			TRANSISTOR 2SA1015-GR(TE2 F T)
Q639			TRANSISTOR 2SA1015-Y(TE2 F T)
Q639			PNP TRANSISTOR 2SA1980MG-AT
Q639			PNP TRANSISTOR 2SA1980M Y
Q645			TRANSISTOR 2SD400(E)
Q645			TRANSISTOR 2SD400(F)
Q645			TRANSISTOR KTC3205-Y-AT/P
Q645			TRANSISTOR KTC3205OAT
Q646			TRANSISTOR KTC3199-GR-AT/P
Q646			TRANSISTOR KTC3198-GR-AT/P
Q646			TRANSISTOR 2SC1815-GR(TE2 F T)
Q646			NPN TRANSISTOR 2SC5343MG-AT
Q650			TRANSISTOR KTC3199-GR-AT/P
Q650			TRANSISTOR KTC3198-GR-AT/P
Q650			TRANSISTOR 2SC1815-GR(TE2 F T)
Q650			NPN TRANSISTOR 2SC5343MG-AT
Q671			TRANSISTOR KTC3199-GR-AT/P
Q671			TRANSISTOR KTC3198-GR-AT/P
Q671			TRANSISTOR 2SC1815-GR(TE2 F T)
Q671			NPN TRANSISTOR 2SC5343MG-AT
Q801			TRANSISTOR 2SC2120-Y(TE2 F T)
Q801			TRANSISTOR 2SC2120-O(TE2 F T)
Q801			TRANSISTOR KTC3203-Y-AT/P
Q801			NPN TRANSISTOR 2SC5344 Y
Q7201			TRANSISTOR KTC3199-GR-AT/P
Q7201			TRANSISTOR KTC3198-GR-AT/P
Q7201			TRANSISTOR 2SC1815-GR(TE2 F T)

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
Q7201			NPN TRANSISTOR 2SC5343MG-AT
Q7301			TRANSISTOR KTC3199-GR-AT/P
Q7301			TRANSISTOR KTC3198-GR-AT/P
Q7301			TRANSISTOR 2SC1815-GR(TE2 F T)
Q7301			NPN TRANSISTOR 2SC5343MG-AT
Q7302			TRANSISTOR KTC3199-GR-AT/P
Q7302			TRANSISTOR KTC3198-GR-AT/P
Q7302			TRANSISTOR 2SC1815-GR(TE2 F T)
Q7302			NPN TRANSISTOR 2SC5343MG-AT
RESISTORS			
R1			CHIP RES.(1608) 1/10W 0 OHM
R1			RES CHIP 1608 1/10W J 0 OHM
R2			CHIP RES.(1608) 1/10W 0 OHM
R2			RES CHIP 1608 1/10W J 0 OHM
R5			CHIP RES. 1/10W J 1K OHM
R5			RES CHIP 1608 1/10W J 1.0K OHM
R6			CHIP RES. 1/10W J 100 OHM
R6			RES CHIP 1608 1/10W J 100 OHM
R7			CHIP RES. 1/10W J 150K OHM
R7			RES CHIP 1608 1/10W J 150K OHM
R8			CHIP RES. 1/10W J 100K OHM
R8			RES CHIP 1608 1/10W J 100K OHM
R11			CHIP RES. 1/10W J 220 OHM
R11			RES CHIP 1608 1/10W J 220 OHM
R12			CHIP RES. 1/10W J 22K OHM
R12			RES CHIP 1608 1/10W J 22K OHM
R13			CHIP RES. 1/10W J 22K OHM
R13			RES CHIP 1608 1/10W J 22K OHM
R14			CHIP RES. 1/10W J 220K OHM
R14			RES CHIP 1608 1/10W J 220K OHM
R16			CHIP RES. 1/10W J 750 OHM
R16			RES CHIP 1608 1/10W J 750 OHM
R17			CHIP RES. 1/10W J 4.7K OHM
R17			RES CHIP 1608 1/10W J 4.7K OHM
R18			CARBON RES. 1/4W J 4.7K OHM
R19			CHIP RES. 1/10W J 560 OHM
R19			RES CHIP 1608 1/10W J 560 OHM
R20			CHIP RES. 1/10W J 100 OHM
R20			RES CHIP 1608 1/10W J 100 OHM
R21			CHIP RES. 1/10W J 4.7K OHM
R21			RES CHIP 1608 1/10W J 4.7K OHM
R22			CHIP RES. 1/10W J 1.5K OHM
R22			RES CHIP 1608 1/10W J 1.5K OHM
R24			CARBON RES. 1/4W J 1K OHM
R25			CHIP RES. 1/10W J 10K OHM
R25			RES CHIP 1608 1/10W J 10K OHM
R26			CHIP RES. 1/10W J 82 OHM
R26			RES CHIP 1608 1/10W J 82 OHM
R301			CHIP RES.(1608) 1/10W 0 OHM
R301			RES CHIP 1608 1/10W J 0 OHM
R302			CHIP RES.(1608) 1/10W 0 OHM
R302			RES CHIP 1608 1/10W J 0 OHM
R303			CHIP RES.(1608) 1/10W 0 OHM
R303			RES CHIP 1608 1/10W J 0 OHM
R501			PCB JUMPER D0.6-P5.0
R502			CHIP RES. 1/10W F 7.50 K OHM
R502			RES CHIP 1608 1/10W F 7.5K OHM
R502			RES CHIP 1608 1/10W F 7.50K OHM
R504			CHIP RES. 1/10W J 47K OHM
R504			RES CHIP 1608 1/10W J 47K OHM
R505			CHIP RES. 1/10W J 22K OHM
R505			RES CHIP 1608 1/10W J 22K OHM
R506			CHIP RES. 1/10W J 47K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R506			RES CHIP 1608 1/10W J 47K OHM
R507			CHIP RES. 1/10W J 22K OHM
R507			RES CHIP 1608 1/10W J 22K OHM
R509			CHIP RES. 1/10W J 100K OHM
R509			RES CHIP 1608 1/10W J 100K OHM
R510			CHIP RES.(1608) 1/10W 0 OHM
R510			RES CHIP 1608 1/10W J 0 OHM
R512			CHIP RES.(1608) 1/10W 0 OHM
R512			RES CHIP 1608 1/10W J 0 OHM
R514			PCB JUMPER D0.6-P5.0
R516			CHIP RES.(1608) 1/10W 0 OHM
R516			RES CHIP 1608 1/10W J 0 OHM
R517			PCB JUMPER D0.6-P5.0
R519			CHIP RES.(1608) 1/10W 0 OHM
R519			RES CHIP 1608 1/10W J 0 OHM
R521			PCB JUMPER D0.6-P5.0
R523			CHIP RES. 1/10W J 51K OHM
R523			RES CHIP 1608 1/10W J 51K OHM
R524			CHIP RES.(1608) 1/10W 0 OHM
R524			RES CHIP 1608 1/10W J 0 OHM
R526			CHIP RES. 1/10W J 4.7K OHM
R526			RES CHIP 1608 1/10W J 4.7K OHM
R527			CHIP RES.(1608) 1/10W 0 OHM
R527			RES CHIP 1608 1/10W J 0 OHM
R601	▲		METAL RES. 2W J 0.39 OHM
R601	▲		METAL OXIDE FILM RES. 2W J 0.39 OHM
R603			PCB JUMPER D0.6-P5.0
R604			CARBON RES. 1/4W J 390K OHM
R605			CARBON RES. 1/4W J 390K OHM
R606			CARBON RES. 1/4W J 390K OHM
R607			CARBON RES. 1/4W J 390K OHM
R609			CARBON RES. 1/4W J 5.6K OHM
R610			CARBON RES. 1/4W J 180 OHM
R611			CARBON RES. 1/4W J 820 OHM
R612			CARBON RES. 1/4W J 180 OHM
R613			CARBON RES. 1/4W J 180 OHM
R620			METAL OXIDE FILM RES. 1W J 1 OHM
R620			METAL OXIDE FILM RES. 1W J 1 OHM
R622			CARBON RES. 1/4W J 1K OHM
R631			METAL OXIDE FILM RES. 1W J 3.3 OHM
R631			METAL OXIDE FILM RES. 1W J 3.3 OHM
R632			CHIP RES. 1/10W F 4.7K OHM
R632			CHIP RES.(1608) 1/10W F 4.7K OHM
R632			RES CHIP 1608 1/10W F 4.70K OHM
R633			PCB JUMPER D0.6-P5.0
R634			CARBON RES. 1/4W J 6.8K OHM
R635			CARBON RES. 1/4W J 270 OHM
R636			CHIP RES. 1/10W F 5.6K OHM
R636			CHIP RES. 1/10W F 5.6K OHM
R636			RES CHIP 1608 1/10W F 5.60K OHM
R637			CARBON RES. 1/4W J 8.2K OHM
R638			CHIP RES. 1/10W J 1.5K OHM
R638			RES CHIP 1608 1/10W J 1.5K OHM
R639			CARBON RES. 1/4W J 100 OHM
R640			CHIP RES. 1/10W F 2.2K OHM
R640			CHIP RES.(1608) 1/10W F 2.2K OHM
R640			RES CHIP 1608 1/10W F 2.20K OHM
R641			CARBON RES. 1/4W J 1.2K OHM
R642			CARBON RES. 1/4W J 2.7K OHM
R643			PCB JUMPER D0.6-P15.0

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R644			PCB JUMPER D0.6-P5.0
R645			CARBON RES. 1/4W J 12K OHM
R646			CARBON RES. 1/4W J 12K OHM
R647			CHIP RES. 1/10W J 22K OHM
R647			RES CHIP 1608 1/10W J 22K OHM
R648			CHIP RES. 1/10W J 10K OHM
R648			RES CHIP 1608 1/10W J 10K OHM
R649			METAL OXIDE FILM RES. 1W 470 OHM
R649			METAL OXIDE FILM RES. 1W J 470 OHM
R651			CARBON RES. 1/4W J 3.3K OHM
R652			CARBON RES. 1/4W J 27K OHM
R653			CARBON RES. 1/4W J 1.5K OHM
R654			CARBON RES. 1/4W J 1.5K OHM
R655			CHIP RES. 1/10W F 1.0K OHM
R655			CHIP RES. 1/10W F 1K OHM
R655			RES CHIP 1608 1/10W F 1.00K OHM
R656			CARBON RES. 1/4W J 68 OHM
R658			CHIP RES. 1/10W F 620 OHM
R658			CHIP RES. 1/10W F 620 OHM
R658			RES CHIP 1608 1/10W F 620 OHM
R660			CHIP RES. 1/10W J 10K OHM
R660			RES CHIP 1608 1/10W J 10K OHM
R662			CARBON RES. 1/4W J 4.7K OHM
R663			METAL OXIDE FILM RES. 1W J 0.27 OHM
R663			METAL OXIDE FILM RES. 1W J 0.27 OHM
R664			CHIP RES. 1/10W F 10K OHM
R664			CHIP RES. 1/10W F 10K OHM
R664			RES CHIP 1608 1/10W F 10.0K OHM
R666			CARBON RES. 1/4W J 270 OHM
R667			CARBON RES. 1/4W J 10 OHM
R668			CHIP RES. 1/10W F 3.3K OHM
R668			CHIP RES.(1608) 1/10W F 3.3K OHM
R668			RES CHIP 1608 1/10W F 3.30K OHM
R670			CARBON RES. 1/4W J 1K OHM
R671			CHIP RES. 1/10W J 10K OHM
R671			RES CHIP 1608 1/10W J 10K OHM
R672			CARBON RES. 1/4W J 1.8K OHM
R673			CARBON RES. 1/4W J 1.8K OHM
R674			CHIP RES. 1/10W J 10K OHM
R674			RES CHIP 1608 1/10W J 10K OHM
R675			CARBON RES. 1/4W J 47K OHM
R676			CHIP RES. 1/10W J 22K OHM
R676			RES CHIP 1608 1/10W J 22K OHM
R677			CARBON RES. 1/4W J 22K OHM
R684			CHIP RES. 1/10W J 56K OHM
R684			RES CHIP 1608 1/10W J 56K OHM
R685			CARBON RES. 1/4W J 2.2K OHM
R687			CARBON RES. 1/4W J 12K OHM
R688			CARBON RES. 1/4W J 120 OHM
R689			CARBON RES. 1/4W J 8.2K OHM
R692			CARBON RES. 1/4W J 10K OHM
R694			PCB JUMPER D0.6-P15.0
R695			PCB JUMPER D0.6-P15.0
R701			CHIP RES. 1/10W J 6.8K OHM
R701			RES CHIP 1608 1/10W J 6.8K OHM
R702			CHIP RES. 1/10W J 47K OHM
R702			RES CHIP 1608 1/10W J 47K OHM
R703			CHIP RES. 1/10W J 6.8K OHM
R703			RES CHIP 1608 1/10W J 6.8K OHM
R704			CHIP RES. 1/10W J 47K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R704			RES CHIP 1608 1/10W J 47K OHM
R705			CHIP RES. 1/10W J 30K OHM
R705			RES CHIP 1608 1/10W J 30K OHM
R706			CHIP RES.(1608) 1/10W 0 OHM
R706			RES CHIP 1608 1/10W J 0 OHM
R710			CHIP RES. 1/10W J 33K OHM
R710			RES CHIP 1608 1/10W J 33K OHM
R713			CHIP RES. 1/10W J 30K OHM
R713			RES CHIP 1608 1/10W J 30K OHM
R714			CHIP RES.(1608) 1/10W 0 OHM
R714			RES CHIP 1608 1/10W J 0 OHM
R717			CHIP RES. 1/10W J 10K OHM
R717			RES CHIP 1608 1/10W J 10K OHM
R718			CHIP RES. 1/10W J 10K OHM
R718			RES CHIP 1608 1/10W J 10K OHM
R719			CHIP RES.(1608) 1/10W 0 OHM
R719			RES CHIP 1608 1/10W J 0 OHM
R720			CHIP RES. 1/10W J 33K OHM
R720			RES CHIP 1608 1/10W J 33K OHM
R802			CHIP RES. 1/10W J 4.7K OHM
R802			RES CHIP 1608 1/10W J 4.7K OHM
R803			CARBON RES. 1/4W J 10 OHM
R804			CARBON RES. 1/4W J 470 OHM
R805			CARBON RES. 1/4W J 47K OHM
R806			CHIP RES. 1/10W J 47K OHM
R806			RES CHIP 1608 1/10W J 47K OHM
R807			CHIP RES. 1/10W J 560 OHM
R807			RES CHIP 1608 1/10W J 560 OHM
R808			CHIP RES. 1/10W J 100 OHM
R808			RES CHIP 1608 1/10W J 100 OHM
R809			CHIP RES.(1608) 1/10W 0 OHM
R809			RES CHIP 1608 1/10W J 0 OHM
R811			CHIP RES. 1/10W J 560 OHM
R811			RES CHIP 1608 1/10W J 560 OHM
R813			CHIP RES. 1/10W J 39K OHM
R813			RES CHIP 1608 1/10W J 39K OHM
R814			CHIP RES. 1/10W J 18K OHM
R814			RES CHIP 1608 1/10W J 18K OHM
R819			CHIP RES. 1/10W J 100 OHM
R819			RES CHIP 1608 1/10W J 100 OHM
R821			CHIP RES.(1608) 1/10W 0 OHM
R821			RES CHIP 1608 1/10W J 0 OHM
R7101			CHIP RES. 1/10W J 75 OHM
R7101			RES CHIP 1608 1/10W J 75 OHM
R7102			CHIP RES. 1/10W J 75 OHM
R7102			RES CHIP 1608 1/10W J 75 OHM
R7103			CHIP RES. 1/10W J 75 OHM
R7103			RES CHIP 1608 1/10W J 75 OHM
R7104			CARBON RES. 1/4W J 75 OHM
R7105			CHIP RES.(1608) 1/10W 0 OHM
R7105			RES CHIP 1608 1/10W J 0 OHM
R7106			CHIP RES.(1608) 1/10W 0 OHM
R7106			RES CHIP 1608 1/10W J 0 OHM
R7111			CHIP RES. 1/10W J 75 OHM
R7111			RES CHIP 1608 1/10W J 75 OHM
R7112			CHIP RES. 1/10W J 75 OHM
R7112			RES CHIP 1608 1/10W J 75 OHM
R7201			CHIP RES. 1/10W J 47 OHM
R7201			RES CHIP 1608 1/10W J 47 OHM
R7202			CHIP RES. 1/10W J 24 OHM
R7202			RES CHIP 1608 1/10W J 24 OHM
R7204			CHIP RES. 1/10W J 100 OHM
R7204			RES CHIP 1608 1/10W J 100 OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R7207			CHIP RES. 1/10W J 56 OHM
R7207			RES CHIP 1608 1/10W J 56 OHM
R7301			CARBON RES. 1/4W J 10 OHM
R7302			CHIP RES. 1/10W J 10K OHM
R7302			RES CHIP 1608 1/10W J 10K OHM
R7303			CHIP RES. 1/10W J 10K OHM
R7303			RES CHIP 1608 1/10W J 10K OHM
R7304			CHIP RES. 1/10W J 100 OHM
R7304			RES CHIP 1608 1/10W J 100 OHM
R7305			CHIP RES. 1/10W J 100 OHM
R7305			RES CHIP 1608 1/10W J 100 OHM
R7306			CHIP RES. 1/10W J 2.2K OHM
R7306			RES CHIP 1608 1/10W J 2.2K OHM
R7307			CHIP RES. 1/10W J 2.2K OHM
R7307			RES CHIP 1608 1/10W J 2.2K OHM
R7316			CHIP RES. 1/10W J 100K OHM
R7316			RES CHIP 1608 1/10W J 100K OHM
R7317			CHIP RES. 1/10W J 100K OHM
R7317			RES CHIP 1608 1/10W J 100K OHM
R7318			CHIP RES. 1/10W J 100K OHM
R7318			RES CHIP 1608 1/10W J 100K OHM
R7319			CHIP RES. 1/10W J 100K OHM
R7319			RES CHIP 1608 1/10W J 100K OHM
R7402			CHIP RES. 1/10W J 12K OHM
R7402			RES CHIP 1608 1/10W J 12K OHM
R7403			CHIP RES. 1/10W J 33K OHM
R7403			RES CHIP 1608 1/10W J 33K OHM
R7405			CHIP RES. 1/10W J 12K OHM
R7405			RES CHIP 1608 1/10W J 12K OHM
R7406			CHIP RES. 1/10W J 33K OHM
R7406			RES CHIP 1608 1/10W J 33K OHM
R7515			CHIP RES. 1/10W J 12K OHM
R7515			RES CHIP 1608 1/10W J 12K OHM
R7516			CHIP RES. 1/10W J 12K OHM
R7516			RES CHIP 1608 1/10W J 12K OHM
R7517			CHIP RES. 1/10W J 33K OHM
R7517			RES CHIP 1608 1/10W J 33K OHM
R7518			CHIP RES. 1/10W J 33K OHM
R7518			RES CHIP 1608 1/10W J 33K OHM
R7601			CHIP RES. 1/10W J 33K OHM
R7601			RES CHIP 1608 1/10W J 33K OHM
R7602			CHIP RES. 1/10W J 22K OHM
R7602			RES CHIP 1608 1/10W J 22K OHM
R7604			CHIP RES. 1/10W J 33K OHM
R7604			RES CHIP 1608 1/10W J 33K OHM
R7605			CHIP RES. 1/10W J 22K OHM
R7605			RES CHIP 1608 1/10W J 22K OHM
R7613			CHIP RES. 1/10W J 33K OHM
R7613			RES CHIP 1608 1/10W J 33K OHM
R7614			CHIP RES. 1/10W J 22K OHM
R7614			RES CHIP 1608 1/10W J 22K OHM
R7616			CHIP RES. 1/10W J 33K OHM
R7616			RES CHIP 1608 1/10W J 33K OHM
R7617			CHIP RES. 1/10W J 22K OHM
R7617			RES CHIP 1608 1/10W J 22K OHM
R7619			CHIP RES. 1/10W J 33K OHM
R7619			RES CHIP 1608 1/10W J 33K OHM
R7620			CHIP RES. 1/10W J 22K OHM
R7620			RES CHIP 1608 1/10W J 22K OHM
R7622			CHIP RES. 1/10W J 33K OHM
R7622			RES CHIP 1608 1/10W J 33K OHM
R7623			CHIP RES. 1/10W J 22K OHM
R7623			RES CHIP 1608 1/10W J 22K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R7701			CHIP RES. 1/10W J 75 OHM
R7701			RES CHIP 1608 1/10W J 75 OHM
R7702			CHIP RES. 1/10W J 100 OHM
R7702			RES CHIP 1608 1/10W J 100 OHM
R7715			CHIP RES. 1/10W J 75 OHM
R7715			RES CHIP 1608 1/10W J 75 OHM
R7716			CHIP RES. 1/10W J 100 OHM
R7716			RES CHIP 1608 1/10W J 100 OHM
R7723			CHIP RES. 1/10W J 75 OHM
R7723			RES CHIP 1608 1/10W J 75 OHM
R7724			CHIP RES. 1/10W J 100 OHM
R7724			RES CHIP 1608 1/10W J 100 OHM
R7747			CHIP RES. 1/10W J 75 OHM
R7747			RES CHIP 1608 1/10W J 75 OHM
R7748			CHIP RES. 1/10W J 100 OHM
R7748			RES CHIP 1608 1/10W J 100 OHM
R7755			CHIP RES. 1/10W J 75 OHM
R7755			RES CHIP 1608 1/10W J 75 OHM
R7756			CHIP RES. 1/10W J 100 OHM
R7756			RES CHIP 1608 1/10W J 100 OHM
R7763			CHIP RES. 1/10W J 75 OHM
R7763			RES CHIP 1608 1/10W J 75 OHM
R7764			CHIP RES. 1/10W J 100 OHM
R7764			RES CHIP 1608 1/10W J 100 OHM
R7771			CHIP RES. 1/10W J 75 OHM
R7771			RES CHIP 1608 1/10W J 75 OHM
R7772			CHIP RES. 1/10W J 100 OHM
R7772			RES CHIP 1608 1/10W J 100 OHM
R7779			CHIP RES. 1/10W J 75 OHM
R7779			RES CHIP 1608 1/10W J 75 OHM
R7780			CHIP RES. 1/10W J 100 OHM
R7780			RES CHIP 1608 1/10W J 100 OHM
R7787			CHIP RES. 1/10W J 75 OHM
R7787			RES CHIP 1608 1/10W J 75 OHM
R7788			CHIP RES. 1/10W J 100 OHM
R7788			RES CHIP 1608 1/10W J 100 OHM
			SIDE JACK BOARD(MPS-2)
JK751			JACK SW DIN PCB L DIN-435C(777D)
JK751			JACK SW DIN PCB L 04 MDC-070V1-A LF
JK752			JACK SW RCA PCB L 05 RCA-340NI-01
JK752			JACK SW RCA PCB L MSP-293V3-324 NI LF
			CAPACITORS
C751			CHIP CERAMIC CAP(1608) CH J 100PF/50V
C752			CHIP CERAMIC CAP(1608) CH J 100PF/50V
C753			CHIP CERAMIC CAP(1608) CH J 100PF/50V
C754			CHIP CERAMIC CAP. F Z 0.47UF/16V
C755			CHIP CERAMIC CAP(1608) B K 0.047UF/50V
C756			CHIP CERAMIC CAP. F Z 0.47UF/16V
C757			CHIP CERAMIC CAP. F Z 2.2UF/10V
C758			CHIP CERAMIC CAP. F Z 2.2UF/10V
			RESISTORS
R751			CHIP RES. 1/10W J 75 OHM
R751			RES CHIP 1608 1/10W J 75 OHM
R752			CHIP RES. 1/10W J 75 OHM
R752			RES CHIP 1608 1/10W J 75 OHM
R753			CHIP RES. 1/10W J 75 OHM
R753			RES CHIP 1608 1/10W J 75 OHM
R756			CHIP RES. 1/10W J 100 OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R756			RES CHIP 1608 1/10W J 100 OHM
R757			CHIP RES. 1/10W J 100 OHM
R757			RES CHIP 1608 1/10W J 100 OHM
R758			CHIP RES. 1/10W J 100 OHM
R758			RES CHIP 1608 1/10W J 100 OHM
R759			CHIP RES. 1/10W J 22K OHM
R759			RES CHIP 1608 1/10W J 22K OHM
R760			CHIP RES. 1/10W J 22K OHM
R760			RES CHIP 1608 1/10W J 22K OHM
R761			CHIP RES. 1/10W J 33K OHM
R761			RES CHIP 1608 1/10W J 33K OHM
R762			CHIP RES. 1/10W J 33K OHM
R762			RES CHIP 1608 1/10W J 33K OHM
			FUNCTION BOARD(MPS-3)
			CAPACITORS
C109			CHIP CERAMIC CAP(1608) F Z 0.1UF/50V
C110			CHIP CERAMIC CAP(1608) F Z 0.1UF/50V
			DIODE
D108			ZENER DIODE MTZJT-775.6B
			RESISTORS
R120			CARBON RES. 1/4W G 6.8K OHM
R121			CARBON RES. 1/4W G 4.7K OHM
R122			CARBON RES. 1/4W G 2.7K OHM
R123			CARBON RES. 1/4W G 2.2K OHM
R124			CARBON RES. 1/4W G 1.5K OHM
R125			CARBON RES. 1/4W J 220 OHM
R126			CARBON RES. 1/4W G 1.5K OHM
			SWITCHES
SW108			TACT SWITCH SKQSAB
SW108			TACT SWITCH TC-1104(H=5.0)
SW108			TACT SWITCH KSM0612B
SW109			TACT SWITCH SKQSAB
SW109			TACT SWITCH TC-1104(H=5.0)
SW109			TACT SWITCH KSM0612B
SW110			TACT SWITCH SKQSAB
SW110			TACT SWITCH TC-1104(H=5.0)
SW110			TACT SWITCH KSM0612B
SW111			TACT SWITCH SKQSAB
SW111			TACT SWITCH TC-1104(H=5.0)
SW111			TACT SWITCH KSM0612B
SW112			TACT SWITCH SKQSAB
SW112			TACT SWITCH TC-1104(H=5.0)
SW112			TACT SWITCH KSM0612B
SW113			TACT SWITCH SKQSAB
SW113			TACT SWITCH TC-1104(H=5.0)
SW113			TACT SWITCH KSM0612B
SW114			TACT SWITCH SKQSAB
SW114			TACT SWITCH TC-1104(H=5.0)
SW114			TACT SWITCH KSM0612B
			IR SENSOR BOARD(MPS-4)
RCV101			PHOTO LINK MODULE KSM-712TH2E
			CAPACITORS
C101			ELECTROLYTIC CAP. 47UF/16V M H7
C107			CHIP CERAMIC CAP(1608) F Z 0.1UF/50V
			DIODES
D101			LED L-53HT
D101			LED 333HT/E-L
D101			LED 333HT/E-K
D102			LED 333GT/E
D102			LED(GREEN) LTL-4234

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
RESISTORS			
R101			CARBON RES. 1/4W J 100 OHM
R102			CHIP RES. 1/10W J 3.3K OHM
R102			RES CHIP 1608 1/10W J 3.3K OHM
R103			CHIP RES. 1/10W J 220 OHM
R103			RES CHIP 1608 1/10W J 220 OHM
R104			CHIP RES. 1/10W J 220 OHM
R104			RES CHIP 1608 1/10W J 220 OHM
R105			CHIP RES. 1/10W J 1K OHM
R105			RES CHIP 1608 1/10W J 1.0K OHM
JUNCTION-A BOARD(MPS-5)			
CONNECTOR			
CN101			242 SERIES CONNECTOR TUC-P06X-B1 WHT ST
ASSY2			
MUT BOARD			
Consists of the following:			
ASSY2a			INVERTER BOARD
ASSY2b			JUNCTION-B BOARD
INVERTER BOARD			
AC1901	▲		AC CORD LP-11W&PT218P-K90A&S
AC1901	▲		AC CORD (PB FREE) A0A0280-015
B18			HEAT SINK PMP ASSEMBLY A8AF0UH A8AF0UH
BC1001			PCB JUMPER D0.6-P5.0
BC1931			BEADS INDUCTOR FBR07HA121SB-00
BC1932			BEADS INDUCTOR FBR07HA121SB-00
CL1000			WIRE ASSEMBLY 4PIN / 90MM / AWG26
F1901	▲		FUSE STC4A125V U/CT
F1901	▲		FUSE 4.00A/125V
FH1901			FUSE HOLDER MSF-015 LF (B110)
FH1902			FUSE HOLDER MSF-015 LF (B110)
L7			SCREW B-TIGHT D3X8 BIND HEAD+
SA1901	▲		SURGE ABSORBER 470V+-10PER
SA1901	▲		VARIATOR 10D 471K SVR
T1050			TRANS INVERTER HVT-133
T1100			TRANS INVERTER HVT-133
T1150			TRANS INVERTER HVT-133
T1200			TRANS INVERTER HVT-133
T1250			TRANS INVERTER HVT-133
TM1901			EYELET TYPE D-1
TM1902			EYELET TYPE D-1
T1951	▲		TRANS POWER 8708
T1951	▲		TRANS POWER BCK-35-0519
CAPACITORS			
C1000			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1001			CHIP CERAMIC CAP.(1608) B K 1UF/25V
C1002			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1003			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1004			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1005			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C1006			CHIP CERAMIC CAP.(1608) B K 0.047UF/50V
C1007			CHIP CERAMIC CAP. CH J 330PF/50V
C1008			CHIP CERAMIC CAP.(1608) B K 2.2UF/10V

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C1009			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1010			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1011			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C1012			CHIP CERAMIC CAP.(1608) B K 0.47UF/10V
C1014			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1015			ELECTROLYTIC CAP. 470UF/35V M
C1015			ELECTROLYTIC CAP. 470UF/35V M
C1016			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1017			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1018			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1019			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1020			CHIP CERAMIC CAP.(1608) B K 0.1UF/50V
C1021			CHIP CERAMIC CAP. F Z 1UF/10V
C1022			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C1023			CHIP CERAMIC CAP.(1608) CH J 1000PF/50V
C1032			ELECTROLYTIC CAP. 47UF/35V M
C1040			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1044			CHIP CERAMIC CAP.(1608) B K 1UF/25V
C1046			CHIP CERAMIC CAP.(1608) B K 1UF/25V
C1061			CAP CERAMIC HV 15PF/3.15KV/SLJ
C1062			CHIP CERAMIC CAP. B K 1500PF/50V
C1063			CHIP CERAMIC CAP. B K 2200PF/50V
C1064			CAP CERAMIC HV 15PF/3.15KV/SLJ
C1065			CHIP CERAMIC CAP. B K 1500PF/50V
C1066			CHIP CERAMIC CAP. B K 2200PF/50V
C1067			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1101			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1103			CHIP CERAMIC CAP.(1608) B K 1000PF/50V
C1104			CHIP CERAMIC CAP. CH J 220PF/50V
C1105			CHIP CERAMIC CAP. CH J 220PF/50V
C1106			CHIP CERAMIC CAP. CH J 220PF/50V
C1107			CHIP CERAMIC CAP. CH J 220PF/50V
C1111			CAP CERAMIC HV 15PF/3.15KV/SLJ
C1112			CHIP CERAMIC CAP. B K 1500PF/50V
C1113			CHIP CERAMIC CAP. B K 2200PF/50V
C1114			CAP CERAMIC HV 15PF/3.15KV/SLJ
C1115			CHIP CERAMIC CAP. B K 1500PF/50V
C1116			CHIP CERAMIC CAP. B K 2200PF/50V
C1117			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1161			CAP CERAMIC HV 15PF/3.15KV/SLJ

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C1162			CHIP CERAMIC CAP. B K 1500PF/50V
C1163			CHIP CERAMIC CAP. B K 2200PF/50V
C1164			CAP CERAMIC HV 15PF/3.15KV/SL/J
C1165			CHIP CERAMIC CAP. B K 1500PF/50V
C1166			CHIP CERAMIC CAP. B K 2200PF/50V
C1167			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1211			CAP CERAMIC HV 15PF/3.15KV/SL/J
C1212			CHIP CERAMIC CAP. B K 1500PF/50V
C1213			CHIP CERAMIC CAP. B K 2200PF/50V
C1214			CAP CERAMIC HV 15PF/3.15KV/SL/J
C1215			CHIP CERAMIC CAP. B K 1500PF/50V
C1216			CHIP CERAMIC CAP. B K 2200PF/50V
C1217			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1261			CAP CERAMIC HV 15PF/3.15KV/SL/J
C1262			CHIP CERAMIC CAP. B K 1500PF/50V
C1263			CHIP CERAMIC CAP. B K 2200PF/50V
C1264			CAP CERAMIC HV 15PF/3.15KV/SL/J
C1265			CHIP CERAMIC CAP. B K 1500PF/50V
C1266			CHIP CERAMIC CAP. B K 2200PF/50V
C1267			CHIP CERAMIC CAP.(1608) B K 0.01UF/50V
C1500			CHIP CERAMIC CAP.(1608) F Z 0.22UF/50V
C1502			CHIP CERAMIC CAP.(1608) F Z 0.22UF/50V
C1550			CHIP CERAMIC CAP.(1608) F Z 0.22UF/50V
C1552			CHIP CERAMIC CAP.(1608) F Z 0.22UF/50V
C1701			ELECTROLYTIC CAP. 10UF/50V M
C1901	▲		METALIZED FILM CAP. 0.47UF/250V
C1901	▲		CAP METALIZED FILM 0.47UF/300V K 3.5MM
C1902	▲		METALIZED FILM CAP. 0.47UF/250V
C1902	▲		CAP METALIZED FILM 0.47UF/300V K 3.5MM
C1910			CAP ELE LS 470UF/200V/M/85
C1910			ELECTROLYTIC CAP. 470UF/200V LX
C1930			CERAMIC CAP. BN 1000PF/2KV
C1930			CERAMIC CAP. 1000PF/2KV
C1930			CERAMIC CAP RB 1000PF/2KV
C1930			CERAMIC CAP. BL 1000PF/2KV
C1931			POLYESTER FILM CAP. (PB FREE) 0.001UF/100V J
C1931			CAP POLYESTER FILM 0.001UF/100V J
C1932			POLYESTER FILM CAP. (PB FREE) 0.027UF/100V J
C1932			CAP POLYESTER FILM 0.027UF/100V J
C1933			POLYESTER FILM CAP. (PB FREE) 0.1UF/100V J
C1933			CAP POLYESTER FILM 0.1UF/100V J
C1941			CERAMIC CAP. B K 0.01UF/1KV
C1970			POLYESTER FILM CAP. (PB FREE) 0.0022UF/100V J

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
C1970			CAP POLYESTER FILM 0.0022UF/100V J
C1980			CHIP CERAMIC CAP. F Z 0.01UF/50V
C1981			ELECTROLYTIC CAP. 0.47UF/50V M
C1990			CERAMIC CAP. B K 3300PF/500V
C1991	▲		CAP ELE STD-85 4700UF/35V SL
C1991	▲		CAP ELE STD-85 4700UF/35V SL
CONNECTORS			
CN1050			CONNECTOR PRINT OSU KW05-120-02-00
CN1100			CONNECTOR PRINT OSU KW05-120-02-00
CN1150			CONNECTOR PRINT OSU KW05-120-02-00
CN1200			CONNECTOR PRINT OSU KW05-120-02-00
CN1250			CONNECTOR PRINT OSU KW05-120-02-00
CN1901			CONNECTOR B2P3-VH(LF)(SN)
DIODES			
D1000			SWITCHING DIODE 1SS133(T-77)
D1000			DIODE SWITCHING HSS4148TE-E
D1001			SWITCHING DIODE 1SS133(T-77)
D1001			DIODE SWITCHING HSS4148TE-E
D1002			ZENER DIODE MTZJT-776.2B
D1003			ZENER DIODE MTZJT-776.2B
D1004			ZENER DIODE MTZJT-776.2B
D1005			ZENER DIODE MTZJT-776.2B
D1006			SWITCHING DIODE 1SS133(T-77)
D1006			DIODE SWITCHING HSS4148TE-E
D1008			ZENER DIODE MTZJT-775.6B
D1021			SWITCHING DIODE 1SS133(T-77)
D1021			DIODE SWITCHING HSS4148TE-E
D1042			ZENER DIODE MTZJT-7724B
D1043			SWITCHING DIODE 1SS133(T-77)
D1043			DIODE SWITCHING HSS4148TE-E
D1045			ZENER DIODE MTZJT-7724B
D1046			SWITCHING DIODE 1SS133(T-77)
D1046			DIODE SWITCHING HSS4148TE-E
D1060			SWITCHING DIODE 1SS133(T-77)
D1060			DIODE SWITCHING HSS4148TE-E
D1061			SWITCHING DIODE 1SS133(T-77)
D1061			DIODE SWITCHING HSS4148TE-E
D1062			SWITCHING DIODE 1SS133(T-77)
D1062			DIODE SWITCHING HSS4148TE-E
D1063			SWITCHING DIODE 1SS133(T-77)
D1063			DIODE SWITCHING HSS4148TE-E
D1064			SWITCHING DIODE 1SS133(T-77)
D1064			DIODE SWITCHING HSS4148TE-E
D1065			SWITCHING DIODE 1SS133(T-77)
D1065			DIODE SWITCHING HSS4148TE-E
D1066			SWITCHING DIODE 1SS133(T-77)
D1066			DIODE SWITCHING HSS4148TE-E
D1067			SWITCHING DIODE 1SS133(T-77)
D1067			DIODE SWITCHING HSS4148TE-E
D1068			SWITCHING DIODE 1SS133(T-77)
D1068			DIODE SWITCHING HSS4148TE-E
D1110			SWITCHING DIODE 1SS133(T-77)
D1110			DIODE SWITCHING HSS4148TE-E
D1111			SWITCHING DIODE 1SS133(T-77)
D1111			DIODE SWITCHING HSS4148TE-E
D1112			SWITCHING DIODE 1SS133(T-77)
D1112			DIODE SWITCHING HSS4148TE-E
D1113			SWITCHING DIODE 1SS133(T-77)
D1113			DIODE SWITCHING HSS4148TE-E

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
D1114			SWITCHING DIODE 1SS133(T-77)
D1114			DIODE SWITCHING HSS4148TE-E
D1115			SWITCHING DIODE 1SS133(T-77)
D1115			DIODE SWITCHING HSS4148TE-E
D1116			SWITCHING DIODE 1SS133(T-77)
D1116			DIODE SWITCHING HSS4148TE-E
D1117			SWITCHING DIODE 1SS133(T-77)
D1117			DIODE SWITCHING HSS4148TE-E
D1118			SWITCHING DIODE 1SS133(T-77)
D1118			DIODE SWITCHING HSS4148TE-E
D1160			SWITCHING DIODE 1SS133(T-77)
D1160			DIODE SWITCHING HSS4148TE-E
D1161			SWITCHING DIODE 1SS133(T-77)
D1161			DIODE SWITCHING HSS4148TE-E
D1162			SWITCHING DIODE 1SS133(T-77)
D1162			DIODE SWITCHING HSS4148TE-E
D1163			SWITCHING DIODE 1SS133(T-77)
D1163			DIODE SWITCHING HSS4148TE-E
D1164			SWITCHING DIODE 1SS133(T-77)
D1164			DIODE SWITCHING HSS4148TE-E
D1165			SWITCHING DIODE 1SS133(T-77)
D1165			DIODE SWITCHING HSS4148TE-E
D1166			SWITCHING DIODE 1SS133(T-77)
D1166			DIODE SWITCHING HSS4148TE-E
D1167			SWITCHING DIODE 1SS133(T-77)
D1167			DIODE SWITCHING HSS4148TE-E
D1168			SWITCHING DIODE 1SS133(T-77)
D1168			DIODE SWITCHING HSS4148TE-E
D1210			SWITCHING DIODE 1SS133(T-77)
D1210			DIODE SWITCHING HSS4148TE-E
D1211			SWITCHING DIODE 1SS133(T-77)
D1211			DIODE SWITCHING HSS4148TE-E
D1212			SWITCHING DIODE 1SS133(T-77)
D1212			DIODE SWITCHING HSS4148TE-E
D1213			SWITCHING DIODE 1SS133(T-77)
D1213			DIODE SWITCHING HSS4148TE-E
D1214			SWITCHING DIODE 1SS133(T-77)
D1214			DIODE SWITCHING HSS4148TE-E
D1215			SWITCHING DIODE 1SS133(T-77)
D1215			DIODE SWITCHING HSS4148TE-E
D1216			SWITCHING DIODE 1SS133(T-77)
D1216			DIODE SWITCHING HSS4148TE-E
D1217			SWITCHING DIODE 1SS133(T-77)
D1217			DIODE SWITCHING HSS4148TE-E
D1218			SWITCHING DIODE 1SS133(T-77)
D1218			DIODE SWITCHING HSS4148TE-E
D1260			SWITCHING DIODE 1SS133(T-77)
D1260			DIODE SWITCHING HSS4148TE-E
D1261			SWITCHING DIODE 1SS133(T-77)
D1261			DIODE SWITCHING HSS4148TE-E
D1262			SWITCHING DIODE 1SS133(T-77)
D1262			DIODE SWITCHING HSS4148TE-E
D1263			SWITCHING DIODE 1SS133(T-77)
D1263			DIODE SWITCHING HSS4148TE-E
D1264			SWITCHING DIODE 1SS133(T-77)
D1264			DIODE SWITCHING HSS4148TE-E
D1265			SWITCHING DIODE 1SS133(T-77)
D1265			DIODE SWITCHING HSS4148TE-E
D1266			SWITCHING DIODE 1SS133(T-77)
D1266			DIODE SWITCHING HSS4148TE-E
D1267			SWITCHING DIODE 1SS133(T-77)
D1267			DIODE SWITCHING HSS4148TE-E
D1268			SWITCHING DIODE 1SS133(T-77)

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
D1268			DIODE SWITCHING HSS4148TE-E
D1501			SWITCHING DIODE 1SS133(T-77)
D1501			DIODE SWITCHING HSS4148TE-E
D1502			SWITCHING DIODE 1SS133(T-77)
D1502			DIODE SWITCHING HSS4148TE-E
D1503			SWITCHING DIODE 1SS133(T-77)
D1503			DIODE SWITCHING HSS4148TE-E
D1550			SWITCHING DIODE 1SS133(T-77)
D1550			DIODE SWITCHING HSS4148TE-E
D1551			SWITCHING DIODE 1SS133(T-77)
D1551			DIODE SWITCHING HSS4148TE-E
D1552			SWITCHING DIODE 1SS133(T-77)
D1552			DIODE SWITCHING HSS4148TE-E
D1553			SWITCHING DIODE 1SS133(T-77)
D1553			DIODE SWITCHING HSS4148TE-E
D1702			ZENER DIODE MTZJT-773.3B
D1901	▲		DIODE 1N5406
D1901	▲		DIODE 1N5406BH
D1902	▲		DIODE 1N5406
D1902	▲		DIODE 1N5406BH
D1903	▲		DIODE 1N5406
D1903	▲		DIODE 1N5406BH
D1904	▲		DIODE 1N5406
D1904	▲		DIODE 1N5406BH
D1930			ZENER DIODE MTZJT-7727B
D1931			ZENER DIODE MTZJT-775.6B
D1932			SWITCHING DIODE 1SS133(T-77)
D1932			DIODE SWITCHING HSS4148TE-E
D1933			SWITCHING DIODE 1SS133(T-77)
D1933			DIODE SWITCHING HSS4148TE-E
D1934			DIODE 1ZC36(Q)
D1934			DIODE ZENER RD36F-T7-AZ-B
D1934			DIODE ZENER 1ZB36BB
D1940			DIODE FAST RECOVERY FR157
D1970			ZENER DIODE MTZJT-775.6B
D1971			ZENER DIODE MTZJT-775.6B
D1980			ZENER DIODE MTZJT-7736B
D1981			PCB JUMPER D0.6-P5.0
D1982			SWITCHING DIODE 1SS133(T-77)
D1982			DIODE SWITCHING HSS4148TE-E
D1990	▲		DIODE SCHOTTKY FD867-15L
D1991	▲		DIODE SCHOTTKY FD867-15L
D1992	▲		DIODE SCHOTTKY FD867-15L
D1994			DIODE 1ZC36(Q)
D1994			DIODE ZENER RD36F-T7-AZ-B
D1994			DIODE ZENER 1ZB36BB
ICS			
IC1001			IC INVERTER CONTROLLER OZ9966SN-B1-0-TR/SSO
IC1001			IC INVERTER CONTROLLER OZ9926ASN-C2-0-TR
IC1500			IC BA10324AF-E2
IC1500			IC(OPAMP) LM324NSR
IC1500			IC OPAMP LM324DT/SO-14/14PIN
IC1550			IC BA10324AF-E2
IC1550			IC(OPAMP) LM324NSR
IC1550			IC OPAMP LM324DT/SO-14/14PIN
IC1930	▲		PHOTO COUPLER LTV817MCF
IC1930	▲		PHOTO COUPLER PS2561L1-1-A-V(L)
IC1931	▲		PHOTO COUPLER LTV817MCF
IC1931	▲		PHOTO COUPLER PS2561L1-1-A-V(L)
COILS			

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
L1901	▲		FILTER LLBG00ZY2015
L1902	▲		FILTER LLBG00ZY2015
TRANSISTORS			
Q1002			TRANSISTOR KTC3199-GR-AT/P
Q1002			TRANSISTOR KTC3198-GR-AT/P
Q1002			TRANSISTOR 2SC1815-GR(Te2 F T)
Q1002			NPN TRANSISTOR 2SC5343MG-AT
Q1020			TRANSISTOR KTA1267-GR-AT/P
Q1020			TRANSISTOR KTA-1266-GR-AT/P
Q1020			TRANSISTOR 2SA1015-Y(Te2 F T)
Q1020			TRANSISTOR 2SA1015-GR(Te2 F T)
Q1020			PNP TRANSISTOR 2SA1980MG-AT
Q1020			PNP TRANSISTOR 2SA1980M Y
Q1100			FET POWER MOS SMD NP22N055SLE-E1-AZ
Q1101			FET POWER MOS SMD NP22N055SLE-E1-AZ
Q1102			FET POWER MOS SMD NP22N055SLE-E1-AZ
Q1103			FET POWER MOS SMD NP22N055SLE-E1-AZ
Q1930	▲		FET MOS 2SK3561(Q) IDSS100UA
Q1931			TRANSISTOR KTC3199-GR-AT/P
Q1931			TRANSISTOR KTC3198-GR-AT/P
Q1931			TRANSISTOR 2SC1815-GR(Te2 F T)
Q1931			NPN TRANSISTOR 2SC5343MG-AT
Q1932			TRANSISTOR 2SC2120-Y(Te2 F T)
Q1932			TRANSISTOR 2SC2120-O(Te2 F T)
Q1932			TRANSISTOR KTC3203-Y-AT/P
Q1932			NPN TRANSISTOR 2SC5344 Y
Q1970			TRANSISTOR KTC3199-GR-AT/P
Q1970			TRANSISTOR KTC3198-GR-AT/P
Q1970			TRANSISTOR 2SC1815-GR(Te2 F T)
Q1970			NPN TRANSISTOR 2SC5343MG-AT
Q1971			TRANSISTOR KTC3199-GR-AT/P
Q1971			TRANSISTOR KTC3198-GR-AT/P
Q1971			TRANSISTOR 2SC1815-GR(Te2 F T)
Q1971			NPN TRANSISTOR 2SC5343MG-AT
Q1972			TRANSISTOR KTC3199-GR-AT/P
Q1972			TRANSISTOR KTC3198-GR-AT/P
Q1972			TRANSISTOR 2SC1815-GR(Te2 F T)
Q1972			NPN TRANSISTOR 2SC5343MG-AT
RESISTORS			
R1000			CHIP RES. 1/10W J 20K OHM
R1000			RES CHIP 1608 1/10W J 20K OHM
R1001			CHIP RES. 1/10W J 10K OHM
R1001			RES CHIP 1608 1/10W J 10K OHM
R1002			CARBON RES. 1/4W J 5.1K OHM
R1003			CHIP RES. 1/10W J 220K OHM
R1003			RES CHIP 1608 1/10W J 220K OHM
R1005			CHIP RES. 1/10W F 160 K OHM
R1005			CHIP RES.(1608) 1/10W F 160K OHM
R1005			RES CHIP 1608 1/10W F 160K OHM
R1006			CHIP RES. 1/10W J 10K OHM
R1006			RES CHIP 1608 1/10W J 10K OHM
R1007			CHIP RES. 1/10W J 1M OHM
R1007			RES CHIP 1608 1/10W J 1.0M OHM
R1008			CHIP RES. 1/10W J 51K OHM
R1008			RES CHIP 1608 1/10W J 51K OHM
R1009			CHIP RES. 1/10W F 1M OHM
R1009			CHIP RES. 1/10W F 1M OHM
R1009			RES CHIP 1608 1/10W F 1.00M OHM
R1010			CHIP RES. 1/10W F 120 K OHM
R1010			CHIP RES. 1/10W F 120K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R1010			RES CHIP 1608 1/10W F 120K OHM
R1011			CHIP RES. 1/10W F 130K OHM
R1011			CHIP RES. 1/10W F 130K OHM
R1011			RES CHIP 1608 1/10W F 130K OHM
R1012			CHIP RES. 1/10W J 68K OHM
R1012			RES CHIP 1608 1/10W J 68K OHM
R1013			CHIP RES. 1/10W J 10K OHM
R1013			RES CHIP 1608 1/10W J 10K OHM
R1014			CARBON RES. 1/4W J 51K OHM
R1015			CHIP RES.(1608) 1/10W F 5.1K OHM
R1015			CHIP RES. 1/10W F 5.1K OHM
R1015			RES CHIP 1608 1/10W F 5.10K OHM
R1020			CHIP RES. 1/10W J 1M OHM
R1020			RES CHIP 1608 1/10W J 1.0M OHM
R1041			CHIP RES. 1/10W J 10K OHM
R1041			RES CHIP 1608 1/10W J 10K OHM
R1045			CHIP RES. 1/10W J 47K OHM
R1045			RES CHIP 1608 1/10W J 47K OHM
R1046			CARBON RES. 1/4W J 6.8K OHM
R1047			CHIP RES. 1/10W J 1M OHM
R1047			RES CHIP 1608 1/10W J 1.0M OHM
R1048			CARBON RES. 1/4W J 1K OHM
R1050			CHIP RES. 1/10W J 47K OHM
R1050			RES CHIP 1608 1/10W J 47K OHM
R1051			CARBON RES. 1/4W J 6.8K OHM
R1052			CHIP RES. 1/10W J 1M OHM
R1052			RES CHIP 1608 1/10W J 1.0M OHM
R1053			CHIP RES. 1/10W J 1K OHM
R1053			RES CHIP 1608 1/10W J 1.0K OHM
R1060			CHIP RES. 1/10W J 100K OHM
R1060			RES CHIP 1608 1/10W J 100K OHM
R1061			CHIP RES. 1/10W J 20K OHM
R1061			RES CHIP 1608 1/10W J 20K OHM
R1062			CHIP RES. 1/10W F 750 OHM
R1062			CHIP RES. RMC1/067500FTP
R1062			RES CHIP 1608 1/10W F 750 OHM
R1063			CHIP RES. 1/10W J 5.1K OHM
R1063			RES CHIP 1608 1/10W J 5.1K OHM
R1064			CHIP RES. 1/10W J 100K OHM
R1064			RES CHIP 1608 1/10W J 100K OHM
R1065			CHIP RES. 1/10W J 20K OHM
R1065			RES CHIP 1608 1/10W J 20K OHM
R1066			CHIP RES. 1/10W F 750 OHM
R1066			CHIP RES. RMC1/067500FTP
R1066			RES CHIP 1608 1/10W F 750 OHM
R1067			CHIP RES. 1/10W J 5.1K OHM
R1067			RES CHIP 1608 1/10W J 5.1K OHM
R1068			CHIP RES. 1/10W F 6.8K OHM
R1068			CHIP RES. 1/10W F 6.8K OHM
R1068			RES CHIP 1608 1/10W F 6.80K OHM
R1069			CHIP RES. 1/10W F 6.8K OHM
R1069			CHIP RES. 1/10W F 6.8K OHM
R1069			RES CHIP 1608 1/10W F 6.80K OHM
R1070			CHIP RES. 1/10W J 1M OHM
R1070			RES CHIP 1608 1/10W J 1.0M OHM
R1071			CARBON RES. 1/4W J 1K OHM
R1100			CHIP RES. 1/10W J 33 OHM
R1100			RES CHIP 1608 1/10W J 33 OHM
R1101			CHIP RES. 1/10W J 33 OHM
R1101			RES CHIP 1608 1/10W J 33 OHM
R1102			CHIP RES. 1/10W J 33 OHM
R1102			RES CHIP 1608 1/10W J 33 OHM
R1103			CHIP RES. 1/10W J 33 OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R1103			RES CHIP 1608 1/10W J 33 OHM
R1110			CHIP RES. 1/10W J 100K OHM
R1110			RES CHIP 1608 1/10W J 100K OHM
R1111			CHIP RES. 1/10W J 20K OHM
R1111			RES CHIP 1608 1/10W J 20K OHM
R1112			CHIP RES. 1/10W F 750 OHM
R1112			CHIP RES. RMC1/067500FTP
R1112			RES CHIP 1608 1/10W F 750 OHM
R1113			CHIP RES. 1/10W J 5.1K OHM
R1113			RES CHIP 1608 1/10W J 5.1K OHM
R1114			CHIP RES. 1/10W J 100K OHM
R1114			RES CHIP 1608 1/10W J 100K OHM
R1115			CHIP RES. 1/10W J 20K OHM
R1115			RES CHIP 1608 1/10W J 20K OHM
R1116			CHIP RES. 1/10W F 750 OHM
R1116			CHIP RES. RMC1/067500FTP
R1116			RES CHIP 1608 1/10W F 750 OHM
R1117			CHIP RES. 1/10W J 5.1K OHM
R1117			RES CHIP 1608 1/10W J 5.1K OHM
R1118			CHIP RES. 1/10W F 6.8K OHM
R1118			CHIP RES. 1/10W F 6.8K OHM
R1118			RES CHIP 1608 1/10W F 6.80K OHM
R1119			CHIP RES. 1/10W F 6.8K OHM
R1119			CHIP RES. 1/10W F 6.8K OHM
R1119			RES CHIP 1608 1/10W F 6.80K OHM
R1120			CHIP RES. 1/10W J 1M OHM
R1120			RES CHIP 1608 1/10W J 1.0M OHM
R1121			CARBON RES. 1/4W J 1K OHM
R1160			CHIP RES. 1/10W J 100K OHM
R1160			RES CHIP 1608 1/10W J 100K OHM
R1161			CHIP RES. 1/10W J 20K OHM
R1161			RES CHIP 1608 1/10W J 20K OHM
R1162			CHIP RES. 1/10W F 750 OHM
R1162			CHIP RES. RMC1/067500FTP
R1162			RES CHIP 1608 1/10W F 750 OHM
R1163			CHIP RES. 1/10W J 5.1K OHM
R1163			RES CHIP 1608 1/10W J 5.1K OHM
R1164			CHIP RES. 1/10W J 100K OHM
R1164			RES CHIP 1608 1/10W J 100K OHM
R1165			CHIP RES. 1/10W J 20K OHM
R1165			RES CHIP 1608 1/10W J 20K OHM
R1166			CHIP RES. 1/10W F 750 OHM
R1166			CHIP RES. RMC1/067500FTP
R1166			RES CHIP 1608 1/10W F 750 OHM
R1167			CHIP RES. 1/10W J 5.1K OHM
R1167			RES CHIP 1608 1/10W J 5.1K OHM
R1168			CHIP RES. 1/10W F 6.8K OHM
R1168			CHIP RES. 1/10W F 6.8K OHM
R1168			RES CHIP 1608 1/10W F 6.80K OHM
R1169			CHIP RES. 1/10W F 6.8K OHM
R1169			CHIP RES. 1/10W F 6.8K OHM
R1169			RES CHIP 1608 1/10W F 6.80K OHM
R1170			CHIP RES. 1/10W J 1M OHM
R1170			RES CHIP 1608 1/10W J 1.0M OHM
R1171			CARBON RES. 1/4W J 1K OHM
R1210			CHIP RES. 1/10W J 100K OHM
R1210			RES CHIP 1608 1/10W J 100K OHM
R1211			CHIP RES. 1/10W J 20K OHM
R1211			RES CHIP 1608 1/10W J 20K OHM
R1212			CHIP RES. 1/10W F 750 OHM
R1212			CHIP RES. RMC1/067500FTP
R1212			RES CHIP 1608 1/10W F 750 OHM
R1213			CHIP RES. 1/10W J 5.1K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R1213			RES CHIP 1608 1/10W J 5.1K OHM
R1214			CHIP RES. 1/10W J 100K OHM
R1214			RES CHIP 1608 1/10W J 100K OHM
R1215			CHIP RES. 1/10W J 20K OHM
R1215			RES CHIP 1608 1/10W J 20K OHM
R1216			CHIP RES. 1/10W F 750 OHM
R1216			CHIP RES. RMC1/067500FTP
R1216			RES CHIP 1608 1/10W F 750 OHM
R1217			CARBON RES. 1/4W J 5.1K OHM
R1218			CHIP RES. 1/10W F 6.8K OHM
R1218			CHIP RES. 1/10W F 6.8K OHM
R1218			RES CHIP 1608 1/10W F 6.80K OHM
R1219			CHIP RES. 1/10W F 6.8K OHM
R1219			CHIP RES. 1/10W F 6.8K OHM
R1219			RES CHIP 1608 1/10W F 6.80K OHM
R1220			CHIP RES. 1/10W J 1M OHM
R1220			RES CHIP 1608 1/10W J 1.0M OHM
R1221			CARBON RES. 1/4W J 1K OHM
R1260			CHIP RES. 1/10W J 100K OHM
R1260			RES CHIP 1608 1/10W J 100K OHM
R1261			CHIP RES. 1/10W J 20K OHM
R1261			RES CHIP 1608 1/10W J 20K OHM
R1262			CHIP RES. 1/10W F 750 OHM
R1262			CHIP RES. RMC1/067500FTP
R1262			RES CHIP 1608 1/10W F 750 OHM
R1263			CARBON RES. 1/4W J 5.1K OHM
R1264			CHIP RES. 1/10W J 100K OHM
R1264			RES CHIP 1608 1/10W J 100K OHM
R1265			CHIP RES. 1/10W J 20K OHM
R1265			RES CHIP 1608 1/10W J 20K OHM
R1266			CHIP RES. 1/10W F 750 OHM
R1266			CHIP RES. RMC1/067500FTP
R1266			RES CHIP 1608 1/10W F 750 OHM
R1267			CARBON RES. 1/4W J 5.1K OHM
R1268			CHIP RES. 1/10W F 6.8K OHM
R1268			CHIP RES. 1/10W F 6.8K OHM
R1268			RES CHIP 1608 1/10W F 6.80K OHM
R1269			CHIP RES. 1/10W F 6.8K OHM
R1269			CHIP RES. 1/10W F 6.8K OHM
R1269			RES CHIP 1608 1/10W F 6.80K OHM
R1270			CHIP RES. 1/10W J 1M OHM
R1270			RES CHIP 1608 1/10W J 1.0M OHM
R1271			CHIP RES. 1/10W J 1K OHM
R1271			RES CHIP 1608 1/10W J 1.0K OHM
R1500			CHIP RES. 1/10W F 47.0 K OHM
R1500			CHIP RES.(1608) 1/10W F 47K OHM
R1500			RES CHIP 1608 1/10W F 47.0K OHM
R1501			CHIP RES. 1/10W F 1.0K OHM
R1501			CHIP RES. 1/10W F 1K OHM
R1501			RES CHIP 1608 1/10W F 1.00K OHM
R1504			CHIP RES. 1/10W J 10K OHM
R1504			RES CHIP 1608 1/10W J 10K OHM
R1506			CHIP RES. 1/10W J 100K OHM
R1506			RES CHIP 1608 1/10W J 100K OHM
R1507			CHIP RES. 1/10W J 10K OHM
R1507			RES CHIP 1608 1/10W J 10K OHM
R1508			CHIP RES. 1/10W J 100K OHM
R1508			RES CHIP 1608 1/10W J 100K OHM
R1509			CHIP RES. 1/10W J 10K OHM
R1509			RES CHIP 1608 1/10W J 10K OHM
R1510			CHIP RES. 1/10W J 100K OHM
R1510			RES CHIP 1608 1/10W J 100K OHM
R1511			CHIP RES. 1/10W J 10K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R1511			RES CHIP 1608 1/10W J 10K OHM
R1550			CHIP RES. 1/10W F 47.0 K OHM
R1550			CHIP RES.(1608) 1/10W F 47K OHM
R1550			RES CHIP 1608 1/10W F 47.0K OHM
R1551			CHIP RES. 1/10W F 1.0K OHM
R1551			CHIP RES. 1/10W F 1K OHM
R1551			RES CHIP 1608 1/10W F 1.00K OHM
R1554			CHIP RES. 1/10W J 100K OHM
R1554			RES CHIP 1608 1/10W J 100K OHM
R1555			CHIP RES. 1/10W J 10K OHM
R1555			RES CHIP 1608 1/10W J 10K OHM
R1556			CHIP RES. 1/10W J 100K OHM
R1556			RES CHIP 1608 1/10W J 100K OHM
R1557			CHIP RES. 1/10W J 10K OHM
R1557			RES CHIP 1608 1/10W J 10K OHM
R1558			CARBON RES. 1/4W J 100K OHM
R1559			CHIP RES. 1/10W J 10K OHM
R1559			RES CHIP 1608 1/10W J 10K OHM
R1560			CHIP RES. 1/10W J 100K OHM
R1560			RES CHIP 1608 1/10W J 100K OHM
R1561			CHIP RES. 1/10W J 10K OHM
R1561			RES CHIP 1608 1/10W J 10K OHM
R1703			CHIP RES. 1/10W J 2.2K OHM
R1703			RES CHIP 1608 1/10W J 2.2K OHM
R1901	▲		RES CARBON 1/2W J 1M OHM
R1901	▲		GLASS GLAZE RES. 1/2W J 1M OHM
R1902	▲		CEMENT RESISTOR 5W K 2.2 OHM
R1902	▲		CEMENT RES. 5W K 2.2 OHM
R1904	▲		CEMENT RESISTOR 5W K 2.2 OHM
R1904	▲		CEMENT RES. 5W K 2.2 OHM
R1930			CARBON RES. 1/4W J 47 OHM
R1931			CARBON RES. 1/4W J 47K OHM
R1932			CARBON RES. 1/4W J 120 OHM
R1933			CARBON RES. 1/4W J 120 OHM
R1934			CARBON RES. 1/4W J 1.5K OHM
R1936			CARBON RES. 1/4W J 180 OHM
R1937			METAL OXIDE FILM RES. 2W J 0.27 OHM
R1937			METAL OXIDE FILM RES. 2W J 0.27 OHM
R1939			CARBON RES. 1/4W J 2.2K OHM
R1940			CARBON RES. 1/4W J 470K OHM
R1941			CARBON RES. 1/4W J 470K OHM
R1942			CARBON RES. 1/4W J 180K OHM
R1943			CARBON RES. 1/4W J 820K OHM
R1944			CARBON RES. 1/4W J 820K OHM
R1945			CARBON RES. 1/4W J 390K OHM
R1946			METAL OXIDE FILM RES. 2W J 47K OHM
R1946			METAL OXIDE FILM RES. 2W J 47K OHM
R1947			METAL OXIDE FILM RES. 2W J 47K OHM
R1947			METAL OXIDE FILM RES. 2W J 47K OHM
R1948			METAL OXIDE FILM RES. 2W J 47K OHM
R1948			METAL OXIDE FILM RES. 2W J 47K OHM
R1949			CARBON RES. 1/4W J 120 OHM
R1970			CARBON RES. 1/4W J 150 OHM
R1971			CARBON RES. 1/4W J 3.9K OHM
R1973			CARBON RES. 1/4W G 150 OHM
R1974			CHIP RES. 1/10W F 5.6K OHM
R1974			CHIP RES. 1/10W F 5.6K OHM
R1974			RES CHIP 1608 1/10W F 5.60K OHM

ELECTRICAL PARTS LIST

Pos.No.	▲	12 NC	Description
R1975			CHIP RES. 1/10W F 6.8K OHM
R1975			CHIP RES. 1/10W F 6.8K OHM
R1975			RES CHIP 1608 1/10W F 6.80K OHM
R1976			CHIP RES. 1/10W F 6.8K OHM
R1976			CHIP RES. 1/10W F 6.8K OHM
R1976			RES CHIP 1608 1/10W F 6.80K OHM
R1977			CHIP RES. 1/10W F 8.2K OHM
R1977			CHIP RES.(1608) 1/10W F 8.2K OHM
R1977			RES CHIP 1608 1/10W F 8.20K OHM
R1980			CHIP RES. 1/10W J 100 OHM
R1980			RES CHIP 1608 1/10W J 100 OHM
R1981			CHIP RES. 1/10W J 1K OHM
R1981			RES CHIP 1608 1/10W J 1.0K OHM
R1983			CARBON RES. 1/4W J 1K OHM
R1984			PCB JUMPER D0.6-P5.0
R1985			CHIP RES. 1/10W J 22K OHM
R1985			RES CHIP 1608 1/10W J 22K OHM
R1986			CHIP RES. 1/10W J 3.3K OHM
R1986			RES CHIP 1608 1/10W J 3.3K OHM
R1987			CHIP RES. 1/10W J 2.2K OHM
R1987			RES CHIP 1608 1/10W J 2.2K OHM
JUNCTION-B BOARD			
CONNECTOR			
CN1000			242 SERIES CONNECTOR TUC-P04X-B1 WHT ST
ASSY3			
DIGITAL MAIN BOARD UNIT			

16. MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

MECHANICAL PARTS LIST			
Pos.No.		12 NC	Description
A1			FRONT CABINET A8AF2UH
A3			CONTROL PLATE A8AF2UH
A4			REAR CABINET A8AF0UH
A6			RATING LABEL A8AF2UH
A7			FUNCTION KNOB A8AF0UH
A10			REAR COVER A8AF0UH
A11			LED LENS A8AF2UH
A25			AC CORD HOLDER A8AF2UH
B1			PCB HOLDER (L) A8AF0UH
B2			PCB HOLDER (R) A8AF0UH
B3			SHIELD BOX A8AF0UH
B4			SHIELD (T) A8AF0UH
B5			JACK HOLDER(A) A8AF0UH
B8			STAND HINGE A8AF0UH
B9			STAND HOLDER 32V A8AF0UH
B10			STAND HOLDER A81N0UH
B11			SPEAKER HOLDER (L) A8AF0UH
B12			SPEAKER HOLDER (R) A8AF0UH
B22			CLOTH(10X180XT0.5) L0336JG
B30			GASKET A8AF0UH
B40			WASHER(D17) A73F2FP
CL101			WIRE ASSEMBLY 002 6PIN / 350MM / AWG26
CL102			WIRE ASSEMBLY 003 3PIN / 140MM / AWG26
CL801			WIRE ASSEMBLY 005 2PIN / 150MM / AWG24
CL802			WIRE ASSEMBLY 005 2PIN / 150MM / AWG24
CL4501			WIRE ASSEMBLY 010 55PIN / 60MM
CL4502			WIRE ASSEMBLY 010 55PIN / 60MM
L2			SCREW P-TIGHT M4X14 BIND HEAD+BLK
L6			SCREW P-TIGHT 3X10 BIND HEAD+
L9			SCREW S-TIGHT M3X4 BIND HEAD+BLK
L10			SCREW S-TIGHT M3X6 BIND HEAD+
L13			DOUBLE SEMS SCREW M4X6 M4X6
L15			DOUBLE SEMS SCREW M4X10 + BLK
L17			ASSEMBLED SCREW (D9 M3X6) A71F0UH
L18			NUT 3/8-32UNEF
L19			HEX SCREW #4-40 7MM
LCD1			LCD MODULE CMO 8BIT A GRADE
SP801			SPEAKER MAGNETIC S0412F06A
SP802			SPEAKER MAGNETIC S0412F06A

MECHANICAL PARTS LIST			
Pos.No.		12 NC	Description
S1			CARTON A8AF2UH
S2			STYROFOAM TOP A8AF2UH
S3			STYROFOAM BOTTOM A8AF2UH
S4			SET BAG A71FCUH
S5			SERIAL NO. LABEL TD812HC
S16			STAND BAG A71FCUH
X1			BAG POLYETHYLENE 235X365XT0.03
X2			OWNERS MANUAL A8AF2UH
X3		996510011417	REMOTE CONTROL NF800UD 170/ECNLC6.501/NF800
X4			DRY BATTERY R03/2S
X4			BATTERY GR03M
X4			BATTERY R03-B500/01S
X13			CONNECTION GUIDE A8AF2UH
X14			CHILD SAFETY SHEET A8AF2UH
X16			REGISTRATION CARD(MAG-NAVOX) HJ4PPUD
STAND ASSY		996510012240	STAND ASSEMBLY A8AF2UH
Consists of the following:			
A9			STAND COVER A8AF2UH
A12			STAND RUBBER FOOT L5001CB
B7			STAND BASE PLATE A8AF0UH
L20			SCREW P-TIGHT M3X8 DISH HEAD+
SSK			STAND SCREW KIT A8AF2UH
Consists of the following:			
L15			DOUBLE SEMS SCREW M4X10 + BLK
X5			SCREW BAG A81N0UH

17. REVISION LIST

Version 1.0

* Initial release